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A COLLECTIVE INDEX  
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TRANSACTIONS, PROCEEDINGS  
AND ABSTRACTS  
OF  
THE CHEMICAL SOCIETY  
1903—1912

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PART II—INDEX OF SUBJECTS  
J—Z

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LONDON:  
GURNEY AND JACKSON (SUCCESSORS TO J. VAN VOORST),  
33 PATERNOSTER ROW, E.C.



RICHARD CLAY & SONS, LIMITED,  
BRUNSWICK STREET, STAMFORD STREET, S.E.,  
AND BUNGAY, SUFFOLK.

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Index S.

1903-12

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## ABBREVIATIONS.

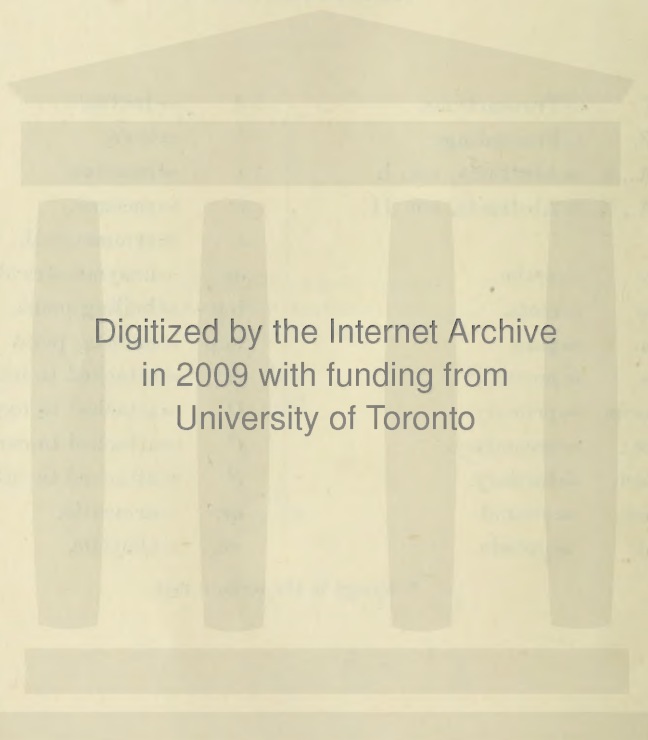
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T. = Transactions.  
P. = Proceedings.  
A., i. = Abstracts, vol. I.  
A., ii. = Abstracts, vol. II.

*o* = ortho.  
*m* = meta.  
*p* = para.  
*n* = normal.\*  
*prim.* = primary.  
*sec.* = secondary.  
*tert.* = tertiary.  
*vic.* = vicinal.  
 $\psi$  = pseudo.

*d* = dextro.  
*l* = lævo.  
*i* = inactive.  
*r* = racemic.  
*s* = symmetrical.  
*as* = unsymmetrical.  
b.p. = boiling point.  
m.p. = melting point.  
*N* = attached to nitrogen.  
*O* = attached to oxygen.  
*C* = attached to carbon.  
*S* = attached to sulphur.  
*ar.* = aromatic.  
*ac.* = alicyclic.

\* Except in the term, *n*-rays.



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- 4-Keto-3-carbamido-2-methyldihydroquinazoline.** See 3-Carbamido-2-methyldihydro-4-quinazolone.
- $\alpha$ -Keto- $\beta$ -carbamybutyric acid,  $\beta$ -bromo-, ethyl ester** (WISLICENUS and SILBERSTEIN), 1910, A., i, 539.
- $\alpha$ -Keto- $\beta$ -carbethoxyanilino- $\alpha\beta$ -diphenylethane** (MCCOMBIE and PARKES), 1912, T., 1994, P., 238.
- 2-Keto-4-carbethoxydihydroisopyrrolyl-5-cyanoacetic acid,** ethyl ester (BEST and THORPE), 1909, T., 1520.
- 2-Keto-4-carbethoxy-1-methyltetrahydropyrrolidene-5-cyanoacetic acid,** ethyl ester, and its hydrolysis (BEST and THORPE), 1909, T., 1529.
- 2-Keto-4-carbethoxy-1-methyltetrahydropyrrolidene-5- $\alpha$ -propionic acid,** 4-cyano-, ethyl ester (CAMPELL and THORPE), 1910, T., 1315.

- 2-Keto-4-carbethoxytetrahydropyrrolidene-5-cyanoacetic acid**, ethyl ester, and its silver salt (BEST and THORPE), 1909, T., 1521.
- 2-Keto-4-carbethoxytetrahydropyrrolidene-5- $\alpha$ -propionic acid**, 4-cyano-, ethyl ester and its silver and potassium salts (CAMPBELL and THORPE), 1910, T., 1314.
- $\alpha$ -Keto- $\beta$ -carbethoxy-*o*-, -*m*-, and -*p*-toluidino- $\alpha\beta$ -diphenylethanes** (McCOMBIE and PARKES), 1912, T., 1996.
- Ketocarboxylic acids**, cyclic esters, syntheses with (KÖTZ and HESSE), 1906, A., i, 88; (KÖTZ and MICHELS), 1906, A., i, 666; 1907, A., i, 58; (KÖTZ and KAYSER), 1906, A., i, 667; (KÖTZ, BIEBER, and SCHÜLER), 1906, A., i, 668; (KÖTZ and SCHÜLER), 1907, A., i, 58; (KÖTZ, BIEBER, HARZER, KAYSER, and SCHÜLER), 1907, A., i, 59.
- 4-Keto-3-*o*-carboxyphenyl-2-methylquinazoline**. See 3-*o*-Carboxyphenyl-2-methyl-4-quinazolone.
- 4-Keto-2-*o*-carboxyphenylquinazoline**. See 2-*o*-Carboxyphenyl-4-quinazolone.
- Ketochlorides**, aromatic, action of metals on (NORRIS, THOMAS, and BROWN), 1911, A., i, 31.
- $\alpha$ -Keto- $\beta$ -*m*-chloroanilino- $\alpha\beta$ -diphenylethane** and its  $\beta$ -benzoyl derivative (BAILEY and McCOMBIE), 1912, T., 2276; P., 266.
- 4-Keto-2-dichloromethyldihydroquinazoline**. See 2-Methyldihydro-4-quinazolone,  $\omega$ -dichloro-.
- 2-Keto-1:2'-coumaranecoumarone** and its hydrobromide (FRIES and PFAFFENDORF), 1911, A., i, 149.
- Ketocoumaryl- $\beta$ -naphthafuran** (STOERMER and SCHÄFFER), 1903, A., i, 847.
- $\eta$ -Ketodecoic acid** (BLAISE and KÖHLER), 1909, A., i, 204.  
metallic salts and derivatives of (BLAISE and KÖHLER), 1910, A., i, 298.
- 1-Keto-2:4-diacetyl-5-methyl-3-*p*-hydroxy-*m*-methoxyphenyl-1:2:3:4-tetrahydrobenzene**. See 4:6-Diacetyl-5-*p*-hydroxy-*m*-methoxyphenyl-3-methyl- $\Delta^2$ -cyclohexenone.
- 4-Keto-2:3-dialkyldihydroquinazolines**. See 2:3-Dialkyldihydroquinazolones.
- 3-Keto-2:5-diisobutyltetrahydrofuran** (DUPONT), 1911, A., i, 805.
- 2-Keto- $\Delta^{1:2}$ -dicoumaran** and its derivatives (FRIES and PFAFFENDORF), 1911, A., i, 150.
- $\beta$ -Keto- $\delta\delta$ -diethoxy- $\alpha\alpha\gamma\gamma$ -tetramethylvaleric acid**, ethyl ester (SHDANOVITSCH), 1911, A., i, 10.
- 4-Keto-3:5-diethylpenthiophen-2:6-dithiol** (APITZSCH), 1905, A., i, 811.
- $\alpha$ -Ketodihydroanethole**, dibromo- and dibromonitro- (HOERING), 1905, A., i, 902.
- $\alpha$ -Ketodihydroisopirole**, bromo- (POND and SIEGFRIED), 1903, A., i, 417.
- Ketodihydro-1:4-benzothiazine**, condensation product of (AKTIENGESELLSCHAFT FÜR ANILIN-FABRIKATION), 1912, A., i, 504.
- 2-Keto-3:4-dihydro-1:4-benzothiazine** (FRIEDLÄNDER and LASKE), 1907, A., i, 335.
- 3-Keto-3:4-dihydro-1:4-benzothiazines**, formation of (FRIEDLÄNDER and CHWALA), 1907, A., i, 525.
- 1-Ketodihydrobenzoxazine**. See Dihydrobenzoxazine-1-one.
- 1-Keto-1:2-dihydrobenzoxazole** and the action of aniline on (YOUNG and DUNSTAN), 1908, T., 1056.
- 1-Keto-1:2-dihydrobenzoxazole**, 4-chloro- (*carbonyl-4-chloro-2-amino-phenol*) (UPSON), 1904, A., i, 735.
- Ketodihydro- $\beta$ -camphylic acid**, dihydroxy- (PERKIN), 1903, T., 845.
- Ketodihydrochaulmoogric acid**, hydroxy-, and its methyl ester and its semicarbazone (BARROWCLIFF and POWER), 1907, T., 567; P., 70.
- Ketodihydrocyclopentadiene**, oximes of (WIELAND), 1906, A., i, 418.
- 5-Keto-2:5-dihydrofurfurylidene-4-acetic acid**, 2-hydroxy- (BLAND and THORPE), 1912, T., 1494; P., 195.
- Ketodihydrocyclogeranic acids**. See Dihydroisophoronecarboxylic acids.
- Ketodihydromethylmorphimethine** (*hydroxymethylmorphimethine*) and its derivatives (KNORR and SCHNEIDER), 1906, A., i, 449; (PSCHORR and EINBECK), 1907, A., i, 547; (KNORR and HÖRLEIN), 1907, A., i, 548.
- 2-Ketodihydronaphthalene**, 1-bromo-1-nitro- (FRIES and ROTH), 1912, A., i, 656.
- 6-Keto-1:5-dihydropyridazine-5-carboxylic acid**, 4-imino-, ethyl ester, and its phenylhydrazone (BARON, REMFRY, and THORPE), 1904, T., 1738.
- 2-Ketodihydroisopyrrol-5-cyanoacetic acid** (BEST and THORPE), 1909, T., 1533.
- 4-Keto-3:4-dihydro- $\beta$ -quinacridine**. See  $\beta$ -Quinacridine, 4-hydroxy-.
- Ketodihydroquinazoline**. See Dihydroquinazolone.
- 2-Ketodihydro-1-thionaphthen** (MAR-SCHALK), 1912, A., i, 576.



- 2-Ketodihydrothionaphthen, 1:1-dibromo- (BEZDIK, FRIEDLÄNDER, and KOENIGER), 1908, A., i, 200.
- 3-Ketodihydro-(1)-thionaphthen, and 2-chloro-, 2-bromo-, 2:2-dichloro-, 2:2-dibromo-, and 5-chloro-2:2-dibromo- (BADISCHE ANILIN- & SODA-FABRIK), 1909, A., i, 950.
- 3-Ketodihydro-(1)-thionaphthens, 2-imino-, preparation of *p*-hydroxyaryl derivatives of (KALLE & Co.), 1912, A., i, 382.
- Ketodihydrotoluene. See Methylcyclohexadienone.
- 3-Keto-2:5-di-*p*-methoxydiphenyl-3:4-dihydro-1:4-diazine and its hydrochloride and picrate (McCOMBIE and PARRY), 1909, T., 588; P., 95.
- 1-Keto-6:7-dimethoxy-2-ethyl-, methyl-, and -propyl-tetrahydroisoquinoline. See 6:7-Dimethoxy-2-ethyl-, -methyl-, and -propyl-tetrahydroisoquinoline.
- 3-Keto-2-*p*-dimethylaminoanilcoumaran (FRIES and HASSELBACH), 1911, A., i, 151.
- 5-Keto-4-dimethylamino-1:2:2:4-tetramethylpyrrolidine. See 4-Dimethylamino-1:2:2:4-tetramethyl-5-pyrrolidine.
- 5-Keto-4-dimethylamino-2:2:4-trimethyltetrahydrofuran and its additive salts (KOHN), 1908, A., i, 819.
- $\gamma$ -Keto- $\alpha$ - $\beta$ -dimethylbutyl alcohol and its semicarbazone and corresponding glycol (SALKIND), 1905, A., i, 732.
- 2-Keto-5:5'-dimethyl- $\Delta^{1:2'}$ -dicoumaran and its derivatives (FRIES and PFAFFENDORF), 1911, A., i, 150.
- 3-Keto-2:5-dimethyl-2:5-diethyltetrahydrofuran and its semicarbazone (DUPONT), 1911, A., i, 805.
- 5-Keto-4:7-dimethyl-4:5-dihydro-1:2:3-benzotriazole, 4-chloro-, 4-hydroxy-, and 4-nitro- (FRIES and NOLL), 1912, A., i, 660.
- 3-Keto-2:2-dimethyl-2:3-dihydropyrrole-5-*o*-benzoic acid, and its salts and 4-bromo-, 4-nitro-, 4-nitroso-, and 1:4-dinitroso-, and their derivatives (GABRIEL), 1911, A., i, 227.
- Ketodimethyl-hexahydrobenzene, -cyclohexane and -cyclohexene. See Dimethylcyclohexanone and -cyclohexenone.
- $\epsilon$ -Keto- $\alpha\alpha$ -dimethylhexoic acid and its semicarbazone (MASSON), 1912, A., i, 280.
- $\beta$ -Keto- $\gamma\gamma$ -dimethylhexoic acid (BRAUN and KITTEL), 1907, A., i, 17.
- $\zeta$ -Keto- $\gamma\gamma$ -dimethyloctaldehyde (SEMMER), 1907, A., i, 715.
- 3-Keto-2:2-dimethylpentamethylene-1-carboxylic acid. See 2:2-Dimethylcyclopentanone-3-carboxylic acid.
- 4-Keto-3:5-dimethylpenthiophen-2:6-disulphonic acid, sodium salt (APITZSCH and BAUER), 1909, A., i, 48.
- 4-Keto-3:5-dimethylpenthiophen-2:6-dithiol and its ethers and diacyl esters (APITZSCH), 1905, A., i, 810.
- 3-Keto-1:1-dimethyl- $\Delta^4$ -tetrahydrobenzene. See 1:1-Dimethyl- $\Delta^4$ -cyclohexen-3-one.
- 5-Keto-4:7-dimethyl-4:5:6:7-tetrahydro-1:2:3-benzotriazole, 4:6:6:7-tetrachloro- (FRIES and NOLL), 1912, A., i, 660.
- 3-Keto-2:5-dimethyltetrahydrofuran and its derivatives (DUPONT), 1911, A., i, 805.
- Ketodimethyltetrahydroglyoxaline. See Dimethyltetrahydroglyoxalone.
- Keto-4:6-dimethylthionaphthen and its -carboxylic acid (KALLE & Co.), 1912, A., i, 126.
- Ketodiol,  $C_{16}H_{14}O_3$ , from the hydrolysis of acetoxydiphenacyl (PAAL and SCHULZE), 1903, A., i, 709.
- 3-Keto-2:5-dipentamethylenetetrahydrofuran and its semicarbazone (DUPONT), 1911, A., i, 805.
- $\delta$ -Keto- $\alpha\delta$ -dicyclopentylvaleric acid and its semicarbazone (WALLACH and OST), 1912, A., i, 569.
- 5-Keto-3:3'-diphenyl- $\Delta^{1(1')3:2'}$ -biscyclopentenylidene and its hydrochloride (BORSCHKE and MENZ), 1908, A., i, 148.
- 2-Keto-3:3-diphenyl-5-*tert*.-butyl-2:3-dihydropyrrole and its 1-methyl derivative (JAPP and MAITLAND), 1904, T., 1502.
- $\alpha$ -Keto- $\beta\gamma$ -diphenylbutyric acid,  $\gamma$ -hydroxy-, and its sodium salt, oxime, phenylhydrazone, and lactone (ERLENMEYER), 1905, A., i, 784.
- 3-Keto-2:5-diphenyl-3:4-dihydro-1:4-diazine (JAPP and KNOX), 1905, T., 702; P., 153.
- 5-Keto-2:3-diphenyl-2:5-dihydrofuran (diphenyl- $\Delta^1$ -crotolactone) (JAPP and MICHIE), 1903, T., 283.
- 5-Keto-2:3-diphenyl-2:5-dihydrofuran-2-acetic acid and its ethyl ester (BESCHKE, WINOGRAD-FINKEL, and KÖHRES), 1911, A., i, 874.
- and  $\alpha$ -bromo-, and its ethyl ester (BESCHKE, KÖHRES, and STOLL), 1912, A., i, 889.
- 5-Keto-2:3-diphenyl-2:5-dihydrofuran-3-iodoacetic acid (BESCHKE, WINOGRAD-FINKEL, and KÖHRES), 1911, A., i, 874.

- 5-Keto-2:3-diphenyl-4-dimethyl-4:5-dihydrofuran (2:3-diphenyl-1:1-dimethyl- $\Delta^2$ -croto lactone) (JAPP and MICHIE), 1903, T., 308.
- 2-Keto-4:5-diphenylene-2:3-dihydrofuran (RICHARDS), 1910, T., 1458; P., 195.
- Keto-3:4-diphenyl- $\Delta^2$ -cyclohexene. See 3:4-Diphenyl- $\Delta^2$ -cyclohexenone.
- 5-Keto-2:3-diphenyl-4-methyl-2:5-dihydrofuran (JAPP and MICHIE), 1903, T., 280; P., 21.
- Ketodiphenyloctolactonic acid and its stereoisomeride, and their salts (FITIG and STADLMAYR), 1904, A., i, 969.
- Ketodiphenyloctonic acid and its salts (FITIG and HADORFF), 1904, A., i, 969.
- 4-Keto-3:5-diphenylpentiophen-2:6-disulphonic acid and its esters and salts (APITZSCH and BAUER), 1909, A., i, 48.
- 4-Keto-3:5-diphenylpentiophen-2:6-dithiol (4-keto-2:6-diphenyl-4-thiophen-3:5-dithiol) (APITZSCH), 1905, A., i, 810.  
and its sulphide (APITZSCH and BAUER), 1909, A., i, 47.
- 4-Keto-3:5-diphenylpentiophen-2:6-dithiophenylurethane (APITZSCH and BAUER), 1909, A., i, 48.
- 4-Keto-1:3-diphenylpyrazolone and its oxime, semicarbazone, and other derivatives (SACHS and BECHERESCU), 1903, A., i, 529.
- 2-Keto-4:5-diphenylpyrroline, 3-benzoylamino-3-hydroxy- (RUHEMANN), 1910, T., 463.
- 5-Keto-2:3-diphenyltetrahydrofuran-2-acetic acid, 3-hydroxy- and its ethyl ester (BESCHKE, WINOGRAD-FINKEL, and KÖHRES), 1911, A., i, 873.  
and its ethyl ester and  $\beta$ -bromo- (BESCHKE, KÖHRES, and STOLL), 1912, A., i, 890.
- Ketodiphenyltetrahydroglyoxaline. See Diphenyltetrahydroglyoxalone.
- 2-Keto-1:5-diphenyl-1:2:3:6-tetrahydro-1:3:4-triazine (BUSCH and HEFELE), 1911, A., i, 583.
- 1-Keto-2:6-diphenyl-4-thiophen-3:5-dithiol and its ethers, salts, and anhydride (APITZSCH and METZGER), 1904, A., i, 510.
- 3-Keto-2:5-distyryl-3:4-dihydro-1:4-diazine and its hydrochloride and tetrabromide (McCOMBIE and PARRY), 1909, T., 589; P., 95.
- 4-Keto-2:6-dithiolacetonylpentiophen-3:5-dicarboxylic acid, ethyl ester (APITZSCH and KELBER), 1910, A., i, 410.
- 1:3-Keto-enolic ethers, preparation of (ABELL), 1912, T., 989; P., 145.
- Ketoethanetricarboxylic acid and its ethyl ester, and calcium salt (KUR-REIN), 1905, A., i, 413.
- 6-Keto-2-ethoxy-4-benzenesulphonyl-piperazine (JOHNSON and McCOLLUM), 1906, A., i, 157.
- 4-Keto-5-ethoxy-3-ethylhydroapocamphoric acid, methyl ester (KOMPPA and ROUTALA), 1911, A., i, 382.
- 5-Keto-3-ethoxy-1-phenyl-4:5-dihydro-1:2:4-triazole, and its 4-methyl derivative (ACREE), 1903, A., i, 867.
- Ketoethoxyphenylnaphthatriazine (BUSCH and BERGMANN), 1905, A., i, 310.
- $\alpha$ -Keto- $\beta$ -ethylheptolactone- $\gamma$ -carboxylic acid and its hydrolysis (FICHTER and KAPPELER), 1908, A., i, 660.
- Ketoethyltetrahydroisoquinoline. See Ethyltetrahydroisoquinolone.
- 3-Keto-6-ethylthiol-(1)-thionaphthen and its nitroso-derivative (KALLE & Co.), 1911, A., i, 666.
- 3-Keto-6-ethylthiol-(1)-thionaphthen-2-carboxylic acid (KALLE & Co.), 1911, A., i, 667.
- $\alpha$ -Keto-fatty acids, esters, and their semicarbazones (LOCQUIN), 1905, A., i, 11.
- $\alpha$ -Keto- $\beta$ -formylanilino- $\alpha\beta$ -diphenyl-ethane (EVEREST and McCOMBIE), 1911, T., 1750.
- 4-Keto- $\alpha$ - and  $\beta$ -cyclogeraniolanecarboxylic acids, and their ethyl esters and their oximes and benzylidene derivatives (MERLING, WELDE, EICHWEDE, and SKITA), 1909, A., i, 482.
- $\alpha$ -Ketoglutaric acid (BLAISE and GAULT), 1908, A., i, 713.  
ethyl ester and derivatives of (BLAISE and GAULT), 1911, A., i, 520.  
diethyl ester and phenylhydrazone of (WISLICENUS and WALDMÜLLER), 1911, A., i, 603.
- $\alpha$ -Ketoglutaric acid,  $\beta\delta$ -dicyano-, ethyl ester (MICHAEL), 1903, A., i, 736.
- $\delta$ -Ketoheptane- $\alpha\gamma$ -dicarboxylic acid,  $\gamma$ -isonitroso- (v. PECHMANN and SIDGWICK), 1904, A., i, 972.
- Ketoheptane- $\alpha\gamma\eta$ -tetracarboxylic acid, ethyl ester (v. PECHMANN and SIDGWICK), 1904, A., i, 971.
- $\epsilon$ -Ketoheptonic acid, its ethyl ester and their semicarbazones (BLAISE and KÖHLER), 1910, A., i, 298.
- Ketohexahydrobenzoic acids. See cyclo-Hexanoncarboxylic acids.

- $\alpha$ -Keto-hexahydrobenzylidene-*m*-amino-phenol** (BORSCHKE, SCHMIDT, TIEDTKE, and ROTTSIEPER), 1910, A., i, 881.
- $\alpha$ -Keto-hexahydrobenzylideneaniline** (BORSCHKE, SCHMIDT, TIEDTKE, and ROTTSIEPER), 1910, A., i, 881.
- $\alpha$ -Keto-hexahydrobenzylideneaniline-*p*-sulphonic acid** and its salts (BORSCHKE, SCHMIDT, TIEDTKE, and ROTTSIEPER), 1910, A., i, 881.
- $\gamma$ -Keto- $\alpha\beta\beta\delta\delta$ -hexamethyladipic acid**, ethyl ester (SHDANOVITSCH), 1911, A., i, 10.
- Ketocyclohexene**. See *cyclo*Hexenone.
- $\gamma$ -Keto-hexoic acid**,  $\epsilon$ -nitro-, and its methyl ester, semicarbazone, and transformation products (THIELE and LANDERS), 1909, A., i, 876.
- Ketohydrazines**, reduction of (DARAPSKY), 1903, A., i, 367.
- Ketohydrindene**. See Hydrindone.
- Ketohydrindenophenazine** (RUHEMANN), 1910, T., 1449.
- Ketohydrindylmethyleneketohydrindene** and its methylenedioxy-derivative (RUHEMANN and LEVY), 1912, T., 2549.
- Ketohydropyridines**. See Hydropyridones.
- 6-Keto-11-hydroxyphenyl-6:11-dihydro-naphthacene**, 5:12-dihydroxy-, and its triacetate and acetyl derivative (VOSWINCKEL and DE WEERTH), 1910, A., i, 50.
- Ketoindene**-. See Indone-.
- 1-Keto-2-indoxylantracene**, and 5- and 8-hydroxy- (BEZDIK and FRIEDLÄNDER), 1910, A., i, 190.
- 2-Keto-1-indoxylantracene** (BEZDIK and FRIEDLÄNDER), 1910, A., i, 190.
- 10-Keto-9-indoxylantracene** (FRIEDLÄNDER), 1909, A., i, 417.
- 1-Keto-2-indoxyl-1:2-dihydronaphthalene**, 4- and 5-amino-, acetyl derivatives and 5-hydroxy- (BEZDIK and FRIEDLÄNDER), 1909, A., i, 416.
- 4-Keto-1-indoxyl-1:4-dihydronaphthalene**, 3-hydroxy- (BEZDIK and FRIEDLÄNDER), 1909, A., i, 415; (FRIEDLÄNDER), 1909, A., i, 417.
- 5-Keto-4(2')-indoxyl-1-phenyl-3-methylpyrazole** (FELIX and FRIEDLÄNDER), 1910, A., i, 279.
- Keto-ketens** and their reactions (STAUDINGER and KLEVER), 1908, A., i, 318; (STAUDINGER), 1908, A., i, 410, 411.
- Ketols**. See Keto-alcohols.
- Keto-lactones**, unsaturated, formation of, from  $\alpha\beta$ -diacylcarboxylic esters (BORSCHKE and FELS), 1906, A., i, 508.
- Keto-lactonic acid**,  $C_8H_9O_5Cl$ , methyl and ethyl esters, and their semicarbazones from epichlorohydrin and the sodium derivative of acetonedicarboxylic esters (HALLER and MARCH), 1903, A., i, 319, 714.
- 4-Keto-5-methoxydehydrocamphoric acid**, methyl ester (KOMPPA), 1910, A., i, 51.
- 2-Keto-8(5)-methoxy-6:7-methylene-dioxy-1:2-dihydroquinoline**. See 8(5)-Methoxy-6:7-methylenedioxy-1:2-dihydro-2-quinolone.
- 2-Keto-8(5)-methoxy-6:7-methylene-dioxy-1-methyl-1:2-dihydroquinoline**. See 8(5)-Methoxy-6:7-methylene-dioxy-1-methyl-1:2-dihydro-2-quinolone.
- 2-Keto-8(5)-methoxy-6:7-methylene-dioxy-1-methyl-1:2:3:4-tetrahydroquinoline**. See Oxyisocotarnine.
- 1-Keto-6(7)-methoxy-2-methyltetrahydroisoquinoline**. See 6(7)-Methoxy-2-methyltetrahydroisoquinolone.
- 5-Keto-3-methoxy-1-phenyl-4:5-dihydrotriazole** and its 4-methyl derivative (ACREE), 1903, A., i, 867.
- 3-Keto-5- and -6-methoxy-(1)-thionaphthen** (KALLE & Co.), 1911, A., i, 666.
- 3-Keto-5- and -6-methoxy-(1)-thionaphthen-2-carboxylic acid** and their nitroso-derivatives (KALLE & Co.), 1911, A., i, 666.
- Ketomethylamino-di- and -tetra-methylpyrrolidines**. See Methylamino-di- and -tetra-methylpyrrolidones.
- 5-Keto-4-methylamino-2:2:4-trimethyltetrahydrofuran**, and its ethanol derivative and methiodide and aurichloride (KOHN), 1909, A., i, 599.
- and its phenylthiocarbamide (KOHN), 1908, A., i, 819.
- 2-Keto-1-methyl-1-dichloromethyl-dihydrobenzene**. See 1-Methyl-1-dichloromethylcyclohexen-2-one.
- 4-Keto-1-methyl-1-trichloromethyl-dihydrobenzene**. See 1-Methyl-1-trichloromethylcyclohexen-4-one.
- 1-Keto-4-methyl-1:2-dihydrobenzoxazole** (*carbonyl-3-amino-p-cresol*) (UPSON), 1904, A., i, 735.
- 2-Keto-1-methyldihydronaphthalene**, chloro-derivatives (FRIES and HEMPELMANN), 1908, A., i, 730.
- Ketomethyldihydronaphthaquinoxaline**. See Methyldihydronaphthaquinoxal-one.
- Ketomethyldihydropyridinecarboxylic acid**. See Methyldihydropyridone-carboxylic acid.



- Ketomethyldihydroquinazoline.** See Methyldihydroquinazoline.
- Ketomethyldihydroquinoxaline.** See Methyldihydroquinoxaline.
- 3-Keto-5-methyldihydro-(1)-thionaphthen, 2:2-dibromo-** (BADISCHE ANILIN- & SODA-FABRIK), 1909, A., i, 950.
- 2-Keto-1-methyldihydrothionaphthen-1-carboxylic acid, methyl ester** (AUWERS), 1912, A., i, 1011.
- 1-Keto-5:6-methylenedioxyhydrindeno-phenazine** (RUHEMANN), 1912, T., 785.
- 1:2-Ketomethyleneperimidine** (SACHS), 1909, A., i, 429.
- $\gamma$ -Keto- $\alpha$ -methylglutaric acid and its ethyl ester and their derivatives** (BLAISE and GAULT), 1911, A., i, 520.
- 1-Keto-5-methyl-3-*p*-hydroxy-*m*-methoxyphenyl-1:2:3:4-tetrahydrobenzene-2:4-dicarboxylic acid.** See 5-*m*-Methoxyphenyl-3-methyl- $\Delta^2$ -cyclohexenone-4:6-dicarboxylic acid, *p*-hydroxy-.
- 2-Keto-3-methylimino-5-phenylpyrrolino** hydrochloride and picrate (MÜMM and MÜNCHMEYER), 1911, A., i, 80.
- $\gamma$ -Keto- $\beta$ -methyl-*n*-pentadecane- $\alpha$ -dicarboxylic acid and its methyl ester and oxime** (BARROWCLIFF and POWER), 1907, T., 575; P., 70.
- Ketomethylcyclopentanecarboxylic acids.** See Methylcyclopentanonecarboxylic acids.
- 4-Keto-3-methylpenthiophen-2:6-disulphonic acid, sodium salt** (APITZSCH and BAUER), 1909, A., i, 48.
- 4-Keto-3-methylpenthiophen-2:3-dithiol and its dimethyl ether and diacetyl ester** (APITZSCH), 1905, A., i, 810.
- Ketomethylquinazolines.** See Methylquinazolones.
- 4-Keto-7-methyltetrahydrohexathiazole-5-carboxylic acid, 2-amino, ethyl ester** (JOHNSON and HILL), 1911, A., i, 502.
- 2-Keto-1-methyltetrahydronaphthalene, chloro-derivatives** (FRIES and HEMPELMANN), 1908, A., i, 730.
- 2-Keto-1-methyltetrahydropyrrolidene-5-cyanoacetic acid, ethyl ester** (BEST and THORPE), 1909, T., 1535.
- Ketomethyltetrahydroisoquinoline.** See Methyltetrahydroisoquinoline.
- 5-Keto-3-methylthiol-1-phenyl-4:5-dihydrotriazole, and its 4-methyl derivative** (ACREE), 1903, A., i, 867.
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- 3-Keto-6-methylthiol-(1)-thionaphthen** (KALLE & Co.), 1912, A., i, 126.
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- 3-Keto-6-methylthiol-(1)-thionaphthen-2-carboxylic acid** (KALLE & Co.), 1912, A., i, 126.
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- and its ethyl and methyl ethers (ERRERA), 1911, A., i, 466.
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- C<sub>5</sub>H<sub>8</sub>O, from semicarbazone of ketone C<sub>5</sub>H<sub>8</sub>O** (KRAPIWIN), 1910, A., i, 349.
- C<sub>6</sub>H<sub>8</sub>O<sub>4</sub>, and its phenylhydrazone from decomposition of gyncardin** (DE JONG), 1912, A., i, 39.
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$C_9H_{12}O$ , and its semicarbazone, from limonene (HENDERSON), 1907, T., 1875; P., 247.

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$C_{10}H_{10}O_3$ , and its oxime and semicarbazone, from  $\beta$ -nitroisosafole (WAL-LACH and MÜLLER), 1904, A., i, 754.

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$C_{10}H_{16}O$ , and its semicarbazone, from umbellulone (LEES), 1904, T., 643; P., 89.

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$C_{10}H_9O_2Br$ , from 3:5-dibromo-4-methoxy-1- $\beta$ -bromopropylenebenzene (HOERING), 1904, A., i, 578.

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$C_{11}H_{12}O_4$ , and its oxime and semicarbazone, from isosafole nitrosochloride (WALLACH and BESCHKE), 1904, A., i, 754.

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$C_{11}H_{14}O_3$ , and its oxime, semicarbazone, and nitroschloride, from methylisoegenol (WALLACH and BESCHKE), 1904, A., i, 754.

$C_{11}H_{22}O$ , from oxidation of trihydroxyphythane, and its derivatives (WILLSTÄTTER, MEYER, and HÜNI), 1911, A., i, 148.

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$C_{12}H_{20}O$ , and its bromo-compound and oxime, from methyl ethyl ketone (BRAUN and KITTEL), 1907, A., i, 16.

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$C_{13}H_{26}O$ , from oxidation of  $\beta$ -phytol, and its derivatives (WILLSTÄTTER, MEYER, and HÜNI), 1911, A., i, 148.

$C_{14}H_{16}O_3$ , from reduction of  $\alpha$ -picrotinic acid, and its oxime (ANGELICO), 1910, A., i, 577.

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$C_{15}H_{24}O$ , from  $\alpha$ - and  $\beta$ -gurjunene, and its oxime (DEUSSEN and PHILIPP), 1910, A., i, 575.

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**Ketones**, preparation of (BÉIS), 1904, A., i, 15; (SABATIER and SENDERENS), 1905, A., i, 401; (DARZENS), 1906, A., i, 137; (HAEHN), 1906, A., i, 400; (MARQUIS), 1906, A., i, 434; (FOSSE and ROBYN), 1906, A., i, 976; (MICHAEL and WOLGAST), 1909, A., i, 766.

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catalytic reduction of (SKITA and RITTER), 1911, A., i, 71.

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**6-Keto-2-phenyl-6:7-dihydro-2:1:3-benzotriazole**, 4:5:7:7-tetrachloro- (ZINCKE and SCHARFF), 1910, A., i, 141.

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- 3-Keto-1-phenyl-2:3-dihydroindene**, 2-bromo-, semicarbazone, 6-bromo-, and 2:6-dibromo- (KÖHLER, HERITAGE, and BURNLEY), 1910, A., i, 563.
- Ketophenyldihydroquinazoline**. See Phenyldihydroquinazoline.
- Ketophenyldihydroquinoxaline**. See Phenyldihydroquinoxalone.
- 5-Keto-1-phenyl-4:5-dihydrotriazole**, 3-hydroxy-, and its disilver derivative (ACREE), 1903, A., i, 867.
- 3-thiol-** (ACREE), 1903, A., i, 867.
- 5-Keto-1-phenyl-4-ethyltetrahydro-1:2:4-triazinethiol** and its disulphide (BUSCH and MEUSSDÖRFFER), 1907, A., i, 449.
- Ketophenylcyclohexene**. See Phenylcyclohexenone.
- Ketophenylhydrazinodimethyltetrahydrobenzene**, hydroxy-. See 4-Phenylhydrazino-1:3-dimethyl- $\Delta^1$ -cyclohexen-3-ol-6-one.
- Ketophenylhydrazinomethylidihydroquinazoline**. See Phenylhydrazinomethylidihydroquinazoline.
- Ketophenylhydrazinopyrazolone** and its carboxylic acid and their bromoderivatives (EIBNER and LANE), 1906, A., i, 613.
- 4-Keto-2-phenylimino-5-benzylidene-tetrahydrothiazole** (WHEELER and JAMIESON), 1903, A., i, 521.
- 7-Keto-4-phenylimino-2-phenyl-4:7-dihydro-2:1:3-benzotriazole**, 5-chloro-6-hydroxy- (ZINCKE and SCHARFF), 1910, A., i, 141.
- 4-Keto-2-phenyliminotetrahydrothiophen-3-dicarboxylic acid**, ethyl ester, and its isomeride (RUHEMANN), 1908, T., 627; P., 53.
- and its benzylidene, and salicylidene derivatives, and 5-dibromo-, diethyl ester and 3-cyano-, ethyl ester, and its benzylidene and salicylidene derivatives (RUHEMANN), 1909, T., 121.
- 7-Keto-2-phenyl-4-methyl-1:4-benzopyran**, 5-*o*-, -*m*-, and -*p*-tetrahydroxy-, and its hydrochloride (BÜLOW and SCHMID), 1906, A., i, 598.
- 2-Keto-3-phenyl-5-methyl-2:3-dihydropyrrole-4-carboxylic acid**, ethyl ester (RUHEMANN), 1904, T., 1453; P., 206.
- Ketophenylmethylidihydroquinazoline**. See Phenylmethylidihydroquinazoline.
- 4-Keto-2-phenyl-1-methyl-3:4-dihydroquinolium hydroxide**, salts of (KAUFMANN and PLÁ Y JANINI), 1911, A., i, 916.
- 4-Keto-1-phenyl-3-methyl-5-pyrazolone**, derivatives of (AUWERS, DANNEHL, and BOENNECKE), 1911, A., i, 171.
- Keto-2-phenylnaphthatriazine** (PIERON), 1908, A., i, 926.
- $\gamma$ -Keto- $\eta$ -phenyl- $\Delta$ -octenoic acid** and its esters, salts, oxime, and stereoisomeride (RUPE and SPEISER), 1905, A., i, 351.
- $\gamma$ -Keto- $\eta$ -phenyloctioic acid**,  $\epsilon$ -bromo- (RUPE and SPEISER), 1905, A., i, 351.
- Ketophenylparaconic acid** and *p*-hydroxy-, and *o*-, *m*-, and *p*-nitro-, ethyl esters, and their diethylamine derivatives (GAULT), 1907, A., i, 147.
- Ketophenylparacophenone** and the action of aromatic bases on (RUHEMANN), 1906, T., 1243; P., 198.
- 4-Keto-3-phenylpenthiophen-2:6-dithiol** and its 5-methyl derivative (APITZSCH), 1905, A., i, 811.
- Ketophenylpyrazoloneazobenzenecarboxylic acid** and its sodium derivatives (EIBNER and LAUE), 1906, A., i, 614.
- 6-Keto-2-phenyltetrahydro-2:1:3-benzotriazole**, 4:5:5:7-*p*-pentachloro-, dichlorohydroxy-, and trichlorohydroxy- (ZINCKE and SCHARFF), 1910, A., i, 141.
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- Ketophenyltetrahydroquinoxaline**. See Phenyltetrahydroquinoxalone.
- 5-Keto-4-phenyltetrahydro-1:3:4-thiadiazine**, 2-imino- (FRERICHS and FÖRSTER), 1910, A., i, 191.
- Ketophenyltetrahydro-1:2:4-triazine-thiol** and its methyl ether and disulphide (BUSCH and MEUSSDÖRFFER), 1907, A., i, 449.
- 4-Keto-2-phenyl-3:6:6:7-tetramethylhexahydrobenzopyrazole** (CROSSLEY and RENOUF), 1912, T., 1537.
- 2-Keto-5-phenyl-1-*p*-tolylidihydro-1:3:4-triazine** (BUSCH and HEFELE), 1911, A., i, 583.
- 4-Keto-2-phenyl-3:6:6-trimethylhexahydrobenzopyrazole** and its phenylhydrazone (CROSSLEY and RENOUF), 1912, T., 1534.
- Ketopinic acid**, constitution of (KOMPFA), 1911, A., i, 642.
- Ketopiperidine**. See Piperidone.
- Keto-isopropenyl-** and **-isopropyl-cyclohexane**. See *iso*Propenyl- and *iso*Propyl-cyclohexanone.



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**Ketopyridine.** See Pyridone.

**Ketoquinazolines.** See Quinazolones.

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**Ketostearic acid,** hydroxy-, and its acetyl derivative, phenylhydrazone and semicarbazone (HOLDE and MARCUSON), 1903, A., i, 789.

**$\gamma$ -Ketostearic acid** and its oxime (SHUKOFF and SCHESTAKOFF), 1903, A., i, 398.

**$\epsilon$ -Ketostearic acid** (BOUGAULT and CHARAUX), 1911, A., i, 949.

**$\kappa$ -Ketostearic acid** (ARNAUD and POSTERNAK), 1910, A., i, 459.

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**$\gamma$ -Ketosuccindialdehyde** diethylacetal,  $\beta$ -hydroxy- (WOHL and MYLO), 1912, A., i, 162.

**3-Keto-2:2:5:5-tetraethyltetrahydrofuran** (DUPONT), 1911, A., i, 805.

**Ketotetrahydrobenzene.** See cyclo-Hexenone.

**4-Ketotetrahydropenthiophen-3:5-dicarboxylic acid,** ethyl ester (APITZSCH and BLEZINGER), 1909, A., i, 47.

**2-Ketotetrahydropyrrolidene-5-cyanoacetic acid,** ethyl ester, and its sodium, potassium, and silver salts (BEST and THORPE), 1909, T., 1532.

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**4-Ketotetrahydrothiophen,** 2-imino-, 3-amino-2-imino-, and its benzylidene derivative, 3-bromo-2-imino-, and its hydrobromide and 3-oximino-2-imino- (BENARY), 1910, A., i, 580.

**4-Ketotetrahydrothiophen-3-carboxylic acid,** 2-imino-, ethyl ester, and its diacetyl derivative (BENARY), 1910, A., i, 579.

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**3-Keto-2:2:5:5-tetramethyltetrahydrofuran** and its derivatives (DUPONT), 1911, A., i, 554.

**3-Keto-2:2:5:5-tetramethyltetrahydrofuran,** nitro-, and its salts and acid form (DUPONT), 1912, A., i, 483.

**2-Keto-1:4:6:6-tetramethyl- $\Delta^3$ -tetrahydropyridine.** See 1:4:6:6-Tetramethyl- $\Delta^3$ -tetrahydro-2-pyridone.

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**3-Keto-(1)-thioanthren** (KALLE & Co.), 1912, A., i, 209.

**4-Keto-2-thio-5(2')-indoxylthiazole** (FELIX and FRIEDLÄNDER), 1910, A., i, 280.

**4-Keto-2-thiol-2-ethoxy-3-phenylthiazolidine** (HOLMBERG), 1912, A., i, 133.

**Ketothiomethylthiazolidineacetic acid.** See Methylthiazolidoneacetic acid, thio-.

**Ketothionalkyltetrahydroquinazolines.** See Thionalkyltetrahydroquinazolones.

**3-Keto-(1)-thionaphthen,** action of carbonyl chloride on (GESELLSCHAFT FÜR CHEMISCHE INDUSTRIE IN BASEL), 1912, A., i, 487.

**3-Keto-(1)-thionaphthen, 5- and 6-amino-** (KALLE & Co.), 1911, A., i, 1010.

**6-amino-** (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1910, A., i, 693.

**5-chloro-** (BADISCHE ANILIN- & SODA-FABRIK), 1909, A., i, 950.

**Ketothionaphthens** (AUWERS and ARNDT), 1909, A., i, 175.

**3-Keto-(1)-thionaphthen-2-carboxylic acid, 5- and 6-amino-** (KALLE & Co.), 1911, A., i, 1010.

**10-Keto-9-thionaphthenylantracene** (FRIEDLÄNDER), 1909, A., i, 417.

**1-Ketothionaphthenyl-(2)-4-methylcoumaranone** (FRIES and FINCK), 1909, A., i, 45.

**Ketothionphenyltetrahydroquinazoline.** See Thionphenyltetrahydroquinazoline.

**4-Keto-2-thiothiazolidine-3-acetic acid.** See Rhodanineacetic acid.

**4-Keto-2-thio-5(2')-thionaphthenylthiazole** (FELIX and FRIEDLÄNDER), 1910, A., i, 280.

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**$\alpha$ -Keto- $\beta$ -, - $\alpha$ -, and - $m$ -toluidino- $\alpha\beta$ -diphenylethanes** and their hydrochlorides (MCCOMBIE and PARKES), 1912, T., 1995.

**Ketotolyldimethyl- and tetra-hydroquinoxalines.** See Tolyldimethyl- and tetra-hydroquinoxalones.

**7-Keto-2- $\alpha$ - $m$ - $p$ -trimethoxyphenyl-4-methyl-1:4-benzopyran,** 5-hydroxy-, and its additive salts and oxime and phenylhydrazone (BÜLOW and SCHMID), 1906, A., i, 598.



- $\gamma$ -Keto- $\alpha\beta$ -trimethylbutyl alcohol** and its semicarbazone (SALKIND), 1905, A., i, 732.
- Ketotrimethyldiethylpiperidine.** See Trimethyldiethylpiperidone.
- 3-Keto-2:5:5-trimethylhexahydrobenz-isooxazole** and its oxime (CROSSLEY and RENOUF), 1912, T., 1532.
- 4-Keto-1:1:3-trimethylpentamethylene-2:3-dicarboxylic acid.** See 1:1:3-Trimethyl-4-cyclopentanone-2:3-dicarboxylic acid.
- 5-Keto-2:2:4-trimethyltetrahydrofuran,** 4-amino-, and its phenylthiocarbamide (KOHN), 1908, A., i, 819.
- 4-amino-, 4-methylamino-, and 4-dimethylamino-, pierates (KOHN and BUM), 1910, A., i, 137.
- 4-hydroxy-. See  $\alpha\gamma$ -Dimethylvaleric acid,  $\alpha\gamma$ -dihydroxy-, lactone.
- 2-Keto-4:6:6-trimethyl- $\Delta^3$ -tetrahydropyridine.** See 4:6:6-Trimethyl- $\Delta^3$ -tetrahydro-2-pyridone.
- $\gamma$ -Keto- $\alpha\beta$ -trimethylvaleric acid,** ethyl ester and its semicarbazone (LOCQUIN), 1911, A., i, 792.
- Ketotriose** from acetylmethylcarbinol (DIELS and STEPHAN), 1909, A., i, 472.
- 3-Keto-2:5:6-triphenyl-1:2:4-triazine** (ROLLA), 1908, A., i, 474.
- $\theta$ -Ketoundecic acid** (BLAISE and KEHLER), 1909, A., i, 204.
- $\alpha$ -Keto- $\gamma$ -valerolactone- $\gamma$ -carboxylic acid,** ethyl ester, and its derivatives (GAULT), 1911, A., i, 709.
- Ketoximes,** preparation of (LAPWORTH and STEELE), 1911, T., 1884.
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- secretion of acid by the (CUSHNY), 1904, A., ii, 576.
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- dl*-**Leucotannin**, hexa-acetyl, and strychnine salt of the *l*-compound (NIERENSTEIN), 1910, A., i, 265.
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- l*-Leucyl-*d*-alanylglycine** (ABDERHALDEN and FODOR), 1912, A., i, 951.
- Leucylalanylglycines** (FISCHER and AXHAUSEN), 1905, A., i, 689.
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- Leucyl- $\alpha$ -amino-*n*-nonoylglycine** (HOPWOOD and WEIZMANN), 1911, T., 1579; P., 214.
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- l*-Leucyl-*l*-aspartic acid** (FISCHER and FIEDLER), 1910, A., i, 657.
- l*-Leucyl-*l*-cystine** (FISCHER and GERNGROSS), 1909, A., i, 367.
- Leucyl-diglycylglycine and -glycine**, ethyl ester and hydrochloride (FISCHER and REUTER), 1905, A., i, 264.
- l*-Leucyl-*d*-glutamic acid** and its salts (FISCHER), 1907, A., i, 902.
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- l*-Leucylglycine** and its anhydride (FISCHER), 1906, A., i, 809.
- dl*-Leucyl-glycine and -glycylglycine**, decomposition of, in the organism of rabbits and dogs (ABDERHALDEN and KAUTZSCH), 1906, A., ii, 778.
- d*-isoLeucylglycine** (ABDERHALDEN, HIRSCH, and SCHULER), 1909, A., i, 770.
- l*-Leucylglycyl-*d*-alanine** (FISCHER and STEINGROEVER), 1909, A., i, 366.
- l*-Leucylglycyl-*l*-aspartic acid** (FISCHER and FIEDLER), 1910, A., i, 657.
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- Leucylglycylglycines** (FISCHER), 1906, A., i, 145, 809.
- l*-Leucylglycyl-*l*-leucine** (FISCHER and STEINGROEVER), 1909, A., i, 366; (ABDERHALDEN and WEBER), 1910, A., i, 719.
- l*-Leucylglycyl-*d*-isoleucine** (ABDERHALDEN and SCHULER), 1910, A., i, 305.
- l*-Leucylglycyl-*l*-leucylglycyl-*l*-leucine** (ABDERHALDEN and WEBER), 1910, A., i, 719.
- l*-Leucylhexaglycylglycine** and its salts (FISCHER), 1907, A., i, 485.
- l*-Leucyl-*l*-histidine** and its copper salt (FISCHER and CONE), 1908, A., i, 1005.
- l*-Leucyl-*l*-leucine** and its hydrochloride and copper salt (FISCHER), 1906, A., i, 810.
- l*-Leucyl-*d*-isoleucine** (ABDERHALDEN, HIRSCH, and SCHULER), 1909, A., i, 771.
- l*-Leucyl-*l*-isoleucine** (ABDERHALDEN and SCHULER), 1910, A., i, 305.
- dl*-Leucyl-*dl*-isoleucine** (ABDERHALDEN, HIRSCH, and SCHULER), 1909, A., i, 770.
- Leucyl-leucines**, isomeric, and their anhydrides (FISCHER and KOELKER), 1907, A., i, 687.
- l*-Leucyl-*d*-isoleucine anhydride** (ABDERHALDEN and HIRSCH), 1910, A., i, 720.
- Leucyl- $\alpha$ -methylisoserines, *A*- and *B*-**, and their phenylcarbimides (KAY), 1908, A., i, 774.
- l*-Leucyloctaglycylglycine** (FISCHER), 1907, A., i, 486.
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- l*-Leucyltriglycyl-*l*-leucine** (FISCHER and STEINGROEVER), 1909, A., i, 367.
- l*-Leucyltriglycyl-*l*-leucyl-octa-glycylglycine and -triglycyl-*l*-leucylocta-glycylglycine** (FISCHER), 1907, A., i, 486.
- l*-Leucyltriglycyl-*l*-tyrosine** and its nitrate, picrate, picrolonate, and copper salt (FISCHER), 1907, A., i, 902.
- d*-Leucyl-*l*-tryptophan** (FISCHER), 1910, A., i, 22.
- behaviour of, towards autolytic ferments (FISCHER), 1910, A., i, 599.
- l*-Leucyl-*l*-tryptophyl-*d*-glutamic acid** (ABDERHALDEN), 1909, A., i, 603.
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- Libella**, inanition studies in (SLOWT-ZOFF), 1905, A., ii, 45.
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- Libollite** (GOMES), 1903, A., ii, 27.
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- l*-**Menthone**, study of the influence of the solvent on the velocity of the inversion of, by acids and bases (TUBANDT and MOHS), 1907, A., ii, 670.
- p*-**Menthone**, syntheses of optically active (KÖTZ and SCHWARZ), 1908, A., i, 37.
- d*-*iso*-**Menthone** in the oil of American pennyroyal (BARROWCLIFF), 1907, T., 875; P., 114.
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- l*-**Menthonephenylcarbamic acid** hydrate (BORSCHKE and MERKWITZ), 1904, A., i, 946.
- Menthonephenylhydrazone** (BORSCHKE, WITTE, and BOTHE), 1908, A., i, 366.
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- l*-**Menthylamine** benzene-sulphonate and -disulphonate (KIPPING and MARTIN), 1909, T., 493; P., 66.
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- l*-**Menthylamines**, the four optically isomeric, and their salts, and benzoyl and formyl derivatives (TUTIN and KIPPING), 1903, P., 289; 1904, T., 65.
- l*-**Menthylcarbamic acid**, esters (NEVILLE and PICKARD), 1904, T., 689; P., 114.
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- Mesoxalyl-*o*-, *m*-, and *p*-carboxyphenylhydrazone-bis-1-amino-2:5-dimethylpyrrole-3:4-dicarboxylic acids**, ethyl esters (BÜLOW and SCHÄRER), 1909, A., i, 851.
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- Mesoxalylphenylhydrazonedihydrazide** (BÜLOW and BOZENHARDT), 1910, A., i, 205.
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**Methanedisalicylic acid** (MADSEN), 1907, A., i, 424.

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**Methanesulphinic acid**, aminoimino-, and its allyl derivative (BARNETT), 1910, T., 64.

**Methanesulphonic acid** and its ethyl ester, chloride, and anhydride (BILLETER), 1905, A., i, 584.

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- Methanesulphonic acids**, amino-, acyl derivatives, and their salts, and behaviour towards potassium cyanide (KNOEVENAGEL and LEBACH), 1904, A., i, 994.
- Methanesulphonyl-*p*-aminobenzeneazob- $\beta$ -naphthol** (MORGAN, PICKARD, and MICKLETHWAIT), 1910, T., 63.
- Methanesulphonylcarbimide** (BILLETTER), 1905, A., i, 560.
- Methanesulphonyl-*p*-nitroaniline** (MORGAN, PICKARD, and MICKLETHWAIT), 1910, T., 61.
- Methanesulphonyl-*p*-phenylenediamine** and its hydrochloride (MORGAN and PICKARD), 1909, P., 301; 1910, T., 61.
- Methanesulphonyl-*p*-phenylenediazoimide** (MORGAN and PICKARD), 1909, P., 301; 1910, T., 62.
- Methanetetra-carboxylic acid**, ethyl ester (SCHOLL), 1912, A., i, 238.
- Methanetricarboxylic acid**, thioanilide and thioallylamide, diethyl esters and diamides of (RUHEMANN), 1908, T., 623; P., 53.
- diethyl ester, thioanilide of, action of ethylchloroacetate on (RUHEMANN), 1908, T., 627; P., 53.
- triethyl ester, desmotropy of (MEYER), 1912, A., i, 941.
- “**Methanolysis**” (HALLER and YOUSOUFIAN), 1907, A., i, 10.
- Methazonic acid**, constitution of (MEISTER), 1907, A., i, 885.
- $\alpha$ - and  $\beta$ -**Methazonic anhydrides** and their derivatives (STEINKOPF, BOHRMANN, GRÜNUPP, KIRCHHOFF, JÜRGENS, and BENEDEK), 1910, A., i, 307.
- Methebenine** and its diacetyl and dibenzoyl derivatives (PSCHORR and MASSACIU), 1904, A., i, 767.
- Methebenol** and bromo- (PSCHORR and MASSACIU), 1904, A., i, 768.
- Methenyl group**, behaviour of chloroform towards the (KÖTZ and ZÖRNIG), 1907, A., i, 111.
- Methenylamino-oxime acetate**, cyano- (WIELAND and GMELIN), 1909, A., i, 611.
- Methenylbisindandione** (ERRERA), 1903, A., i, 266, 854.
- action of hydroxylamine on, and its oximes (ERRERA), 1904, A., i, 173.
- Methenylbismalononitrilemonoimino-ethyl ether** (KÖTZ and ZÖRNIG), 1907, A., i, 112.
- Methenylbis-methyl-, -phenylmethyl-, and -diphenyl-pyrazolones** (BETTI and MUNDICI), 1906, A., i, 543.
- Methenylcarbohydrazide**, Curtius and Heidenreich's. See 1:3:4-Triazole, 1-amino-2-hydroxy-.
- Methenyltrithiolacetic acid** and its ethyl ester and salts (HOLMBERG), 1907, A., i, 475.
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- Methethebenine**, methosulphate and methiodide (PSCHORR and LOEWEN), 1910, A., i, 424.
- Methineammonium compounds** (RUPE and PORAI-KOSCHITZ), 1906, A., i, 754.
- Methineammonium dyes** (RUPE and PORAI-KOSCHITZ), 1904, A., i, 107; (RUPE and SCHWARZ), 1905, A., i, 83; (RUPE and SIEBEL), 1906, A., i, 853; (PORAI-KOSCHITZ, SOLODOWINKOFF, and TROITZKI), 1907, A., i, 974.
- Methiodides**, decomposition of, in acid solution (RABE and DENHAM), 1904, A., i, 511.
- Methionie acid**. See Methanedisulphonic acid.
- 1-Metho-1'-butenylbenzene**. See  $\beta$ -Phenyl- $\Delta\beta$ -amylenes.
- Methoethenylbenzene**. See  $\beta$ -Allylbenzene.
- Methoethenylbenzene oxide**. See Phenylmethylethylene oxide.
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- Methoethylheptanonolide** and its optical isomerides, formation of (LAPWORTH and WECHSLER), 1907, T., 1924; P., 252.
- 1-Metho-1'-propenylbenzene**. See  $\beta$ -Phenyl- $\Delta\beta$ -butylene.
- $\alpha$ -**Methovinylpiperidine** and its additive salts (SOBECKI), 1909, A., i, 51.
- Methoxalylanthranil** (BOGERT and GORTNER), 1910, A., i, 284.
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- Methoxyacetoneitrile**, preparation of (GAUTHIER; SOMMELET), 1907, A., i, 21.
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- o*-Methoxyacetophenone** and its oxime, phenylhydrazine, and semicarbazone (KLAGES and EPPELSHEIM), 1904, A., i, 45.

- o*-Methoxyacetophenone,  $\omega$ -chloro- (TUTIN), 1910, T., 2503; P., 244.
- m*-Methoxyacetophenone and its semicarbazone (KLAGES and EPPELSHEIM), 1904, A., i, 46.
- m*-Methoxyacetophenone, 4-hydroxy-. See Apocynin.
- 5-hydroxy- (*quinacetophenone methyl ether*) (V. KOSTANECKI and LAMPE), 1904, A., i, 440.
- 4:6-dihydroxy-, and its acetyl derivative (BARGELLINI and AURELI), 1911, A., i, 856.
- p*-Methoxyacetophenone(*p*-acetylanisole), semicarbazone (MAMELI, BONU, and BIGNAMI), 1909, A., i, 722; (SCHOLTZ and MEYER), 1910, A., i, 562.
- p*-Methoxyacetophenone,  $\omega$ -amino-, hydrochloride (MANNICH and HAHN), 1911, A., i, 649.
- hydrochloride, and other salts of benzoyl and cinnamoyl derivatives (LISTER and ROBINSON), 1912, T., 1304.
- $\omega$ -cyano- (BARGELLINI and FORLI-FORTI), 1911, A., i, 902.
- 2:5-dihydroxy-, and its derivatives (BARGELLINI and AURELI), 1911, A., i, 855.
- Methoxyacetophenones, *m*- and *p*- (EYKMAN, BERGEMA, and HENRARD), 1905, A., i, 360.
- 2-Methoxy-4- $\alpha$ -acetoxypropylphenol, bromo-derivatives (ZINCKE and HAHN), 1904, A., i, 42.
- 2-Methoxy-1-acetyl-4-methylcoumarone and its derivatives (AUWERS), 1912, A., i, 485.
- 5-Methoxy-2-acetylphenyl mercaptan (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1909, A., i, 240.
- Methoxyacetylphosphamic acid, di-bromo-, methyl ester (STEINKOFF and GRÜNUPP), 1908, A., i, 962.
- Methoxy-acids, aromatic, formation of (GRAEBE), 1905, A., i, 699.
- 1-Methoxyacridone (ULLMANN and KIPPER), 1907, A., i, 845.
- 3-Methoxyacridone (ULLMANN and KIPPER), 1905, A., i, 597.
- 5-Methoxy-2-aldehydophenoxyacetic acid and its ethyl ester (DUMONT and V. KOSTANECKI), 1909, A., i, 320.
- 4-Methoxy-3-aldehydotriphenylacetic acid, methyl ether (BISTRZYCKI and FELLMANN), 1911, A., i, 133.
- $\beta$ -Methoxy- $\beta$ -alkylacrylonitriles, synthesis of (MOUREU and LAZENNEC), 1906, A., i, 240.
- $\beta$ -Methoxyamino- $\beta$ -*p*-tolylpropionic acid and nitroso- (POSNER and OPPERMANN), 1907, A., i, 56.
- 9-Methoxy-9-isoamyl-10-anthrone (JÜNGERMANN), 1905, A., i, 795.
- $\epsilon$ -Methoxyamyltrimethylammonium iodide (V. BRAUN), 1911, A., i, 612.
- 6-*o*-Methoxyanilino-3-methoxybenzoic acid (ULLMANN and KIPPER), 1905, A., i, 597.
- 2-*o*-Methoxyanilino-5-nitrobenzophenone (ULLMANN and ERNST), 1906, A., i, 206.
- 2-*o*- and -*p*-Methoxyanilinopyridines, and additive salts of the para-compound (FISCHER and MERL), 1903, A., i, 52.
- p*-Methoxy- $\alpha$ -*o*-anisylcinnamic acid (STOEMER and FRIEMEL), 1911, A., i, 633.
- $\alpha$ -Methoxy- $\alpha$ -anisyl- $\beta$ -phenylethane,  $\beta$ -nitro- (MEISENHEIMER and JOCHELSON), 1907, A., i, 860.
- $\alpha$ -Methoxy- $\alpha$ -anisylpropane,  $\beta$ -nitro-, and its reactions, and its  $\beta$ -bromo-derivative (MEISENHEIMER and JOCHELSON), 1907, A., i, 861.
- $\beta$ -Methoxy- $\beta$ -*o*-anisylpropionic acid (BILMANN), 1912, A., i, 461.
- 5-Methoxy-*p*-anisylsalicylic acid. See 5-Methoxy-2-*p*-methoxyphenoxybenzoic acid.
- 4-Methoxyanthranilic acid and its methyl ester and acetyl derivative (FRIEDLÄNDER, BRUCKNER, and DEUTSCH), 1912, A., i, 319.
- Methoxyanthraquinone, dihydroxy- (BENTLEY and WEIZMANN), 1908, T., 437; P., 52.
- 1-Methoxyanthraquinone (GRAEBE and BERNHARD), 1906, A., i, 865; (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1912, A., i, 477.
- monoxime (FREUND and ACHENBACH), 1911, A., i, 70.
- 4-chloro- (FARBENFABRIKEN VORM. F. BAYER & Co.), 1911, A., i, 469.
- 4-thiocyano-, and its derivatives (GATTERMANN), 1912, A., i, 999.
- 2-Methoxyanthraquinone (KAUFLER), 1904, A., i, 256.
- 1- and 3-amido-, -nitro-, and iodo- (BENESCH), 1911, A., i, 794.
- 1:3-diamino- (BADISCHE ANILIN- & SODA-FABRIK), 1909, A., i, 243.
- 1-chloro- (DECKER and LAUBE), 1906, A., i, 193.
- 5- and 8-Methoxyanthraquinone, 2-chloro-derivatives (BADISCHE ANILIN- & SODA-FABRIK), 1909, A., i, 940.

- Methoxyanthraquinones**, preparation of (FARBENFABRIKEN VORM. F. BAYER & Co.), 1911, A., i, 469.
- $\beta$ -Methoxyanthraquinones**,  $\alpha$ -nitro-, preparation of (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1906, A., i, 677.
- 2-Methoxy-1:4-anthraquinone-4-anil** (LAGODZINSKI), 1906, A., i, 294.
- 1-Methoxyanthraquinone-6- and -7-sulphonic acids**, sodium salts (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1904, A., i, 68.
- 4-Methoxyanthraquinonylthiolacetic acid** (GATTERMANN), 1912, A., i, 1004.
- 4-Methoxyanthraquinone-1-thiophen** (GATTERMANN), 1912, A., i, 1004.
- 1-Methoxyanthrone** (GRAEBE and BERNHARD), 1906, A., i, 866.
- $p$ -Methoxyatrolactic acid**. See  $p$ -Methoxy- $\alpha$ -phenylpropionic acid,  $\alpha$ -hydroxy-.
- $p$ -Methoxyatropic acid** and its dibromide (BOUGAULT), 1908, A., i, 341.
- Methoxyazobenzene**. See Benzeneazo-anisole.
- 3-Methoxybenzaldazine**, 2-hydroxy-, and its methyl ether (NOELTING), 1910, A., i, 177.
- $o$ -Methoxybenzaldehyde** (*methylsalicylaldehyde*) condensation of, with glycine (ERLENMEYER and BADE), 1905, A., i, 131.  
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- $o$ -Methoxybenzaldehyde**, 4-amino- (BLANKSMA), 1911, A., i, 62.
- $m$ -Methoxybenzaldehyde**, 4-amino-, acetyl derivative, and oxime (KHOTINSKY and JACOPSON-JACOPMANN), 1909, A., i, 805.
- 6-bromo-, and its semicarbazone (PSCHORR, SELLE, KOCH, STOFF, and TREIDEL), 1912, A., i, 775.
- 2-hydroxy-, (*o-nanillin*) and its derivatives and condensation products (NOELTING), 1910, A., i, 176.
- 2-iodo- (MAYER), 1912, A., i, 478.
- $p$ -Methoxybenzaldehyde**. See Anisaldehyde.
- $o$ - and  $m$ -Methoxybenzaldehydes**, compounds of, with tin tetra-bromide and -chloride (PFEIFFER, FRIEDMANN, GOLDBERG, PROS, and SCHWARZKOPF), 1911, A., i, 791.
- $o$ -Methoxybenzaldehyde- $o$ -hydroxybenzylhydrazone** and nitroso- (CURTIUS and DETOROS), 1912, A., i, 507.
- $o$ -Methoxybenzaldehyde- $o$ -methoxybenzylhydrazone** and its derivatives (CURTIUS and DETOROS), 1912, A., i, 506.
- $m$ -Methoxybenzaldehyde- $m$ -methoxybenzylhydrazone** (CURTIUS and POTTER), 1912, A., i, 507.
- $p$ -Methoxybenzaldehyde- $p$ -methoxybenzylhydrazone** and its derivatives (CURTIUS and TRAUMANN), 1912, A., i, 508.
- Methoxybenzaldehydemethoxydiphenylethylhydrazone** (BUSCH and FLEISCHMANN), 1910, A., i, 283.
- $m$ -Methoxybenzaldehydenitroso- $m$ -methoxybenzylhydrazone** (CURTIUS and POTTER), 1912, A., i, 507.
- 3-Methoxybenzaldoxime**, 2-amino- (MAYER), 1912, A., i, 478.
- $p$ -Methoxybenzaldoxime** peroxide (FRANZEN and ZIMMERMANN), 1906, A., i, 388.
- $p$ -Methoxybenzamarone** (KLAGES and TETZNER), 1903, A., i, 101.
- $o$ -Methoxybenzamide** (*methylsalicylamide*) SACHS and HEROLD), 1907, A., i, 629.
- $o$ -Methoxybenzamide**, 6-amino- (FRIEDLÄNDER, BRUCKNER, and DEUTSCH), 1912, A., i, 319.
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- 1- $p$ -Methoxybenzeneazo-2-chloronaphthalene** and its acetyl derivatives (CHARRIER and FERRERI), 1911, A., i, 1046.
- $p$ -Methoxybenzeneazodimethylaniline** and its absorption spectra, and methiodide of (HEWITT and THOMAS), 1909, T., 1297; P., 190.
- 1- $p$ -Methoxybenzeneazo-2-naphthol** (CHARRIER and FERRERI), 1912, A., i, 813.
- $o$ - and  $p$ -Methoxybenzeneazo- $\beta$ -naphthols** (CHARRIER and FERRERI), 1911, A., i, 1046.
- 1- $o$ - and  $p$ -Methoxybenzeneazo-2-naphthyl methyl ethers** and their hydrochlorides (CHARRIER and FERRERI), 1912, A., i, 613.
- $p$ -Methoxybenzenediazomethylaminocamphor**. See Camphoryl- $p$ -methoxyphenylmethyltriazene.
- $p$ -Methoxybenzenediazo- $\psi$ -semicarbazinocamphor** and its reactions (FORSTER), 1906, T., 237; P., 31.
- 1-Methoxybenzene-2-sulphonic acid**, 4-amino- (BAUER), 1909, A., i, 470.
- Methoxybenzfurazan**. See Methoxybenzisoxadiazole.



- 4-Methoxybenzhydrol** (BUSCH and LEEFHELM), 1908, A., i, 153.
- 4-Methoxybenzhydrol, 2':4'-dihydroxy-**, dipotassium salt and diacetyl and dibenzoyl derivatives (POPE and HOWARD), 1910, T., 973; P., 88.
- 4-Methoxybenzhydramine** and its derivatives (BUSCH and LEEFHELM), 1908, A., i, 153.
- m*-**Methoxybenzidine** and its *N*-diacetyl and bis-*p*-methoxybenzylidene derivatives (JACOBSON, FRANZ, and HÖNIGSBERGER), 1904, A., i, 203.
- 4'-Methoxybenziloxime** and its methyl ether and its isomeride (MEISENHEIMER and JOCHELSON), 1907, A., i, 860.
- 4'-Methoxybenziloxime- $\beta\beta$ -dimethyl-acetal** and its methyl ether (MEISENHEIMER and JOCHELSON), 1907, A., i, 860.
- o*-**Methoxybenzoic acid**, 6-chloro- (ULLMANN and PANCHAUD), 1907, A., i, 63.
- 4- and 5-hydroxy- (FISCHER and PFEFFER), 1912, A., i, 559.
- 3:5-dinitro- (ULLMANN and ENGI), 1909, A., i, 474.
- dithio- (*o*-methoxyphenylcarbithionic acid), methyl ester of (HÖHN and BLOCH), 1911, A., i, 49.
- m*-**Methoxybenzoic acid**, 2-amino-, and its salts (EWINS), 1912, T., 549.
- 2- and 6-amino-, and 2- and 6-bromo- (PSCHORR, SELLE, KOCH, STOFF, and TREIDEL), 1912, A., i, 775.
- 6-chloro-, reactions of (ULLMANN and KIPPER), 1905, A., i, 596.
- p*-**Methoxybenzoic acid**. See Anisic acid.
- Methoxybenzoic acids**, *o*-, *m*-, and *p*-, menthyl esters of (COHEN and DUDLEY), 1910, T., 1739.
- o*-**Methoxybenzoic acids**, nitro-, isomeric (KELLER), 1908, A., i, 285.
- Methoxybenzonitrile**, dinitro-, van Geuns', constitution of (BLANKSMA), 1908, A., i, 271.
- 2-Methoxybenzonitrile**, 6-amino-, and its acetyl derivative (FRIEDLÄNDER, BRUCKNER, and DEUTSCH), 1912, A., i, 319.
- 2-Methoxybenzophenone**, 5:5'-dibromo-2'-hydroxy- (DIELS and ROSEN-MUND), 1906, A., i, 674.
- 5-hydroxy-, and its phenylhydrazone (KAUFFMANN and GROMBACH), 1906, A., i, 284.
- 3:5-dinitro- (ULLMANN and BROIDO), 1906, A., i, 188.
- 3-Methoxybenzophenone**, 6-hydroxy- (HERZIG and HOFMANN), 1908, A., i, 190.
- 3-Methoxybenzophenone**, 4:6-dihydroxy- (BARGELLINI and MARTEGIANI), 1911, A., i, 966.
- 4-Methoxybenzophenone**, 2'-amino- (ULLMANN and BLEIER), 1903, A., i, 176.
- o*- and *p*-chloro-,  $\alpha$ - and  $\beta$ -chloroimino-,  $\alpha$ - and  $\beta$ -chloroimino-*p*-chloro- (PETERSON), 1911, A., i, 880.
- 2-chloro-5-nitro- (ULLMANN and ERNST), 1906, A., i, 206.
- 2-hydroxy- (KÖNIG and v. KOSTANECKI), 1907, A., i, 62.
- 3-iododichloride, and 3-iodo-, 3-iodoso-, and 3-iodoxy- (WILLGERODT and BURKHARD), 1912, A., i, 630.
- Methoxybenzophenones**, 2- and 4-, and their 4'-nitro-derivatives, and 4'-hydroxy- of the 4-compound (AUWERS), 1904, A., i, 67.
- m*-**Methoxybenzophenonephenylhydrazone**, 6-hydroxy-, *O*-acetate (AUWERS and DANNEHL), 1909, A., i, 441.
- Methoxy-*o*-benzoquinone**, tribromo-, methylhemiacetal of, and its acetyl derivative and phenylhydrazone (JACKSON and FLINT), 1908, A., i, 191.
- 3:5:6-trichloro-, methylhemiacetal of, and its acetyl derivative and phenylhydrazone (JACKSON and MACLAURIN), 1907, A., i, 856.
- 3-Methoxy-*o*-benzoquinone** (WILLSTÄTER and MÜLLER), 1911, A., i, 728.
- Methoxy-*p*-benzoquinone**, chlorodihydroxy- (GRAEBE and HESS), 1905, A., i, 698.
- 5-Methoxy-*p*-benzoquinone**, 3-hydroxy-, and its acetate and its 4-oxime and its salts (POLLAK and GANS), 1903, A., i, 252.
- Methoxy-*o*-benzoquinonedioxime**, chloro- (GREEN and ROWE), 1912, T., 2457.
- 1-Methoxy-*o*-benzoquinone-1:2:2-trioxide**, octachloro-1'-hydroxy- (JACKSON and MACLAURIN), 1907, A., i, 856.
- 5-Methoxybenzothiazole**, 1:4-diamino-, 4-acetyl derivative (FICHTER and BECK), 1912, A., i, 106.
- 5-Methoxybenzisoxadiazole** (*methoxybenzofurazan*), 6-chloro-, and its oxide (GREEN and ROWE), 1912, T., 2457.
- Methoxybenzoyl cyanide**, *m*- and *p* (MAUTHNER), 1909, A., i, 161.
- o*-**Methoxybenzoylacetic acid**,  $\alpha$ -oximino-, methyl ester (WAHL and SILBERZWEIG), 1912, A., i, 213.
- m*-**Methoxybenzoylacetic acid**, ethyl ester, and its derivatives (WAHL and SILBERZWEIG), 1912, A., i, 114.
- oximino-, methyl ester (WAHL and SILBERZWEIG), 1912, A., i, 214.



- o*-Methoxybenzoylacetone and its isonitroso- and *p*-nitrobenzeneazo-derivatives (SACHS and HEROLD), 1907, A., i, 628.
- o*-Methoxybenzoylbenzamidine (TITHERLEY and HUGHES), 1911, T., 1506.
- 4'-Methoxy-2-benzoylbenzoic acid, methyl ester, and isomeride of (MEYER and TURNAU), 1909, A., i, 710.
- 4'-Methoxy-2-benzoylbenzoic acid, 2'-hydroxy-, methyl ester (TAMBOR and SCHÜRCH), 1910, A., i, 559.
- 1-*p*-Methoxybenzoylcoumarone (ZWAYER and V. KOSTANECKI), 1908, A., i, 444.
- 4-*p*-Methoxybenzoylfluorenone (PICK), 1905, A., i, 68.
- p*-Methoxybenzoylglycine, ethyl ester (FRANZEN), 1909, A., i, 575.
- 2-Methoxy-( $\alpha$ )-benzoyliminocinnamic anhydride (MAUTHNER), 1910, A., i, 115.
- 2-Methoxy-1-benzoyl-4-methylcoumarone (AUWERS), 1912, A., i, 485.
- p*-Methoxybenzoylmethylglyoxime peroxide (HARRIES and TIETZ), 1904, A., i, 428.
- p*-Methoxybenzoyl- $\psi$ -methylthiocarbamide (JOHNSON and JAMIESON), 1906, A., i, 352.
- 4-*p*-Methoxybenzoyloxybenzoic acid, methyl ester (MAUTHNER), 1912, A., i, 267.
- 5-Methoxy-2-benzoylphenoxyacetic acid and its ethyl ester (MOTYLEWSKI), 1909, A., i, 822.
- Methoxybenzoylphenylacetylene and the action of bases on (WATSON), 1904, T., 1324; P., 181.
- p*-Methoxybenzoyl- $\alpha$ -phenylbenzylhydrazine (FRANZEN), 1909, A., i, 575.
- $\beta$ -Methoxybenzoyl- $\alpha$ -phenylthiolstyrene (RUHEMANN), 1905, T., 467; P., 123.
- p*-Methoxybenzoylpropionic acid, methyl ester (BARGELLINI and GIUA), 1912, A., i, 356.
- p*-Methoxybenzoylpropionic acid, bromo- (BOUGAULT), 1909, A., i, 102.
- 2-hydroxy-, and its methyl ester, preparation of (PERKIN and ROBINSON), 1908, T., 508.
- o*-Methoxybenzyl alcohol, 5-bromo- (KNORR and HÖRLEIN), 1909, A., i, 918.
- m*-Methoxybenzyl alcohol (PSCHORR, DICKHÄUSER, and ZEIDLER), 1912, A., i, 766.
- p*-Methoxybenzyl alcohol. See Anisyl alcohol.
- 4-Methoxybenzyl bromide, 3:5-dibromo- (AUWERS), 1907, A., i, 918.
- 2-Methoxybenzyl chloride, 5-bromo-, and corresponding nitrile (KNORR and HÖRLEIN), 1909, A., i, 919.
- 3-Methoxybenzyl chloride (PSCHORR, DICKHÄUSER, and ZEIDLER), 1912, A., i, 766.
- Methoxybenzylacetone and its phenylhydrazone (HARRIES and GOLLNITZ), 1904, A., i, 427.
- Methoxybenzylamine, *o*-hydroxy-, *N*-acyl derivatives of (EINHORN, BISCHKOPFF, SZELINSKI, and MAUERMAYER), 1906, A., i, 246.
- o*-Methoxybenzylamine and its salts (ERLENMEYER and BADE), 1905, A., i, 131.
- m*-Methoxybenzylamine and its hydrochloride (CURTIUS and POTTER), 1912, A., i, 508.
- o*-Methoxybenzylazoimide (CURTIUS and DETOROS), 1912, A., i, 507.
- m*-Methoxybenzylazoimide (CURTIUS and POTTER), 1912, A., i, 508.
- p*-Methoxybenzylazoimide (CURTIUS and TRAUMANN), 1912, A., i, 508.
- 4'-Methoxy-2-benzoylbenzoic acid, 2'-hydroxy- (TAMBOR and SCHÜRCH), 1910, A., i, 559.
- p*-Methoxybenzylidibenzyl ketone. See  $\alpha\gamma$ -Diphenyl-8-*p*-methoxyphenyl- $\beta$ -butanone.
- 2-*p*-Methoxybenzyl-1:3-dihydroisindole and its salts (TIFFENEAU), 1911, A., i, 810.
- $\alpha$ -*p*-Methoxybenzyl- $\alpha\alpha$ -dimethylacetophenone (HALLER and BAUER), 1911, A., i, 726.
- p*-Methoxybenzylidimethylamine and its salts (TIFFENEAU), 1911, A., i, 779.
- 4-*p*-Methoxybenzyl-1:3-dimethylhydantoin (JOHNSON and NICOLET), 1912, A., i, 585.
- 4-*p*-Methoxybenzylhydantoin, 4-*m*-amino-, 4-*m*-amino-*p*-hydroxy-, 4-*m*-bromo-, 4-hydroxy-4- $\alpha$ -hydroxy-*m*-nitro-, 4-*m*-nitro-, and their salts (JOHNSON and BENGIS), 1912, A., i, 809.
- o*-Methoxybenzylhydrazine and its hydrochloride and nitroso- (CURTIUS and DETOROS), 1912, A., i, 506.
- m*-Methoxybenzylhydrazine and its derivatives (CURTIUS and POTTER), 1912, A., i, 507.
- p*-Methoxybenzylhydrazine and its derivatives (CURTIUS and TRAUMANN), 1912, A., i, 508.
- $\alpha$ -*o*-Methoxybenzylhydrazonopropionic acid (CURTIUS and DETOROS), 1912, A., i, 507.
- $\alpha$ -*m*-Methoxybenzylhydrazonopropionic acid (CURTIUS and POTTER), 1912, A., i, 507.

- $\alpha$ -*p*-Methoxybenzylhydrazonopropionic acid** (CURTIUS and TRAUMANN), 1912, A., i, 508.
- 4'-Methoxy-2-benzylhydrindene**, 1:2'-*di*-hydroxy- (PERKIN and ROBINSON), 1907, T., 1092.
- Methoxybenzylideneacetophenone**. See Phenyl methoxystyryl ketone.
- 2-*m*-Methoxybenzylideneacetyl-1-naphthol** (v. KOSTANECKI), 1908, A., i, 359.
- p*-Methoxybenzylideneamino- $\alpha$ -alkylcinamic acids**, esters, and their liquid crystals (VORLÄNDER and KASTEN), 1908, A., i, 641.
- o*-Methoxybenzylidene-*p*-aminobenzoic acid** (SENIER and SHEPHEARD), 1909, T., 1949.  
and its ethyl ester (MANCHOT and FURLONG), 1910, A., i, 34.
- m*-Methoxybenzylidene-*p*-aminobenzoic acid**, *p*-hydroxy-, and its ethyl ester (MANCHOT and FURLONG), 1910, A., i, 33.
- $\alpha$ -*p*-Methoxybenzylideneamino- $\alpha$ -*p*-methoxyphenylacetamide** (CLARKE and FRANCIS), 1911, T., 323.
- 2-*p*-Methoxybenzylideneamino-5-nitrophenol** (JACOBSON and HÖNIGSBERGER), 1904, A., i, 207.
- o*-Methoxybenzylidene-*p*-aminophenol** (MANCHOT and PALMBERG), 1912, A., i, 350.
- o*- and *p*-Methoxybenzylideneamino- $\alpha$ -phenylacetamide** (CLARKE and FRANCIS), 1911, T., 321.
- o*-Methoxybenzylideneaniline** (NOELTING), 1910, A., i, 177.
- m*-Methoxybenzylideneaniline**, and 2-hydroxy-, and its methyl ether and 4-hydroxy- (NOELTING), 1910, A., i, 177.
- m*-Methoxybenzylideneaniline**, 2-hydroxy- (SENIER, SHEPHEARD, and CLARKE), 1912, T., 1956.  
*p*-hydroxy- (OTT), 1905, A., i, 376.  
2-iodo- (MAYER), 1912, A., i, 478.
- p*-Methoxybenzylideneaniline** (OTT), 1905, A., i, 376.
- Methoxybenzylideneanilines**, *o*-, *m*-, and *p*-, and their behaviour with methyl iodide (FREUND and BECKER), 1903, A., i, 563.
- 3-Methoxybenzylidene-*o*-, -*m*-, and -*p*-anisidines**, 2-hydroxy- (SENIER, SHEPHEARD, and CLARKE), 1912, T., 1958.
- 3-Methoxybenzylideneanthranilic acid**, 4-hydroxy- (WOLF), 1910, A., i, 736.
- 2- and 4-Methoxybenzylideneanthranilic acids** (WOLF), 1910, A., i, 736.
- m*-Methoxybenzylideneanthraquinonyl-2-hydrazone**, *p*-hydroxy- (MÖHLAU, VIERTEL, and REINER), 1912, A., i, 705.
- p*-Methoxybenzylideneanthraquinonyl-1- and 2-hydrazones** (MÖHLAU, VIERTEL, and REINER), 1912, A., i, 704.
- p*-Methoxybenzylidenebisphenylanilinoacetamide** (MINOVICI and ZENOVICI), 1912, A., i, 700.
- p*-Methoxybenzylidenebisphenylchloroacetamide** (MINOVICI and ZENOVICI), 1912, A., i, 700.
- p*-Methoxybenzylidenebisphenylphenylhydrazinoacetamide** (MINOVICI and ZENOVICI), 1912, A., i, 700.
- 3-Methoxybenzylidene-*o*-, -*m*-, and -*p*-bromoanilines**, 2-hydroxy- (SENIER, SHEPHEARD, and CLARKE), 1912, T., 1957.
- 5-*p*-Methoxybenzylidene-3-isobutylrhodanine** (NÄGELE), 1912, A., i, 795.
- o*-Methoxybenzylidene-*o*-chloroaniline** (SENIER and SHEPHEARD), 1909, T., 1947.
- p*-Methoxybenzylidene-*o*-chloroaniline** (FISCHER and NEBER), 1912, A., i, 438.
- 3-Methoxybenzylidene-*o*-, -*m*-, and -*p*-chloroanilines**, 2-hydroxy- (SENIER, SHEPHEARD, and CLARKE), 1912, T., 1957.
- Methoxybenzylideneisocoumaranones**, 2', 3', and 4'- (CZAPLICKI, v. KOSTANECKI, and LAMPE), 1909, A., i, 236.
- 5-*p*-Methoxybenzylidene-3- $\psi$ -cumyl- and 3-isohexyl-rhodanic acids** (KALUZA), 1910, A., i, 130.
- m*-Methoxybenzylidenecyanoacetamide**, *p*-hydroxy- (PICCININI), 1904, A., i, 919.
- p*-Methoxybenzylidenedeoxybenzoins**,  $\alpha$ - and  $\beta$ -, and the oxime of the  $\alpha$ -compound (KLAGES and TETZNER), 1903, A., i, 101.
- 6-Methoxy-3-benzylidene flavanone** and its hydrochloride (AUWERS and ARNDT), 1909, A., i, 669.
- p*-Methoxybenzylidenehippuric acid** and its methyl ester, amide, imide, and piperidide (ERLENMEYER and WITTENBERG), 1905, A., i, 240.
- p*-Methoxybenzylidenehydantoin** (WHEELER, HOFFMAN, and JOHNSON), 1911, A., i, 923.
- 4-*p*-Methoxybenzylidenehydantoin**, 4-*m*-amino-, 4-*m*-bromo-, and 4-*m*-nitro- (JOHNSON and BENGIS), 1912, A., i, 809.

- m*-Methoxybenzylidenehydrazine, and its phenylthiosemicarbazide (FRANZEN and EICHLER), 1910, A., i, 700.
- 4'-Methoxy-2-benzylidene-1-hydrindone, 2'-hydroxy-, and its acetyl derivative (PERKIN and ROBINSON), 1907, T., 1091.
- 6-Methoxy-2-benzylidene-1-hydrindone (PERKIN and ROBINSON), 1907, T., 1094.
- Methoxybenzylidenemalononitrile (HINRICHSSEN and LOHSE), 1905, A., i, 132.
- 4-*m*-Methoxybenzylidenemethyl-6-methyl-2-pyrimidone, *p*-hydroxy-, and its salts (STARK and BÜGEMANN), 1910, A., i, 437.
- p*-Methoxybenzylidenemethylsemicarbazide (MICHAELIS and HADANCK), 1908, A., i, 1020.
- 3-Methoxybenzylidene- $\beta$ -naphthylamine, 2-hydroxy- (SENIER, SHEPHEARD, and CLARKE), 1912, T., 1958.
- p*-Methoxybenzylideneoxindole (WAHL and BAGARD), 1909, A., i, 735.
- p*-Methoxybenzylidenephenoxyacetone. See  $\alpha$ -Phenoxy-*p*-methoxystyrylmethyl ketone.
- m*-Methoxybenzylidenephénylhydrazines, *p*-hydroxy- (OTT), 1905, A., i, 376.
- p*-Methoxybenzylidenephénylhydrazines (OTT), 1905, A., i, 376.
- 5-*p*-Methoxybenzylidene-rhodanic and 3-allylrhodanic acids (ANDREASCH and ZIPSER), 1903, A., i, 856.
- m*-Methoxybenzylidenesemicarbazide, *p*-hydroxy- (OTT), 1905, A., i, 376.
- 3-Methoxybenzylidene-*o*- and -*p*-toluidines, 2-hydroxy- (SENIER, SHEPHEARD, and CLARKE), 1912, T., 1956.
- 4-hydroxy- (MANCHOT and FURLONG), 1910, A., i, 33.
- 2-Methoxybenzylidene-*o*-4-xylydine (SENIER and SHEPHEARD), 1909, T., 1946.
- 3-Methoxybenzylidene-*o*-4-, -*m*-4-, and -*p*-xylydines, 2-hydroxy- (SENIER, SHEPHEARD, and CLARKE), 1912, T., 1957; P., 237.
- Methoxybenzylidene-. See also Anisylidene-.
- p*-Methoxybenzylmalonic acid and  $\alpha$ -bromo- (FRIEDMANN and GUTMANN), 1910, A., i, 741.
- p*-Methoxybenzylmethylamine and its hydrochloride (TIFFENEAU), 1911, A., i, 779.
- p*-Methoxybenzyl methyl ketone (*anisylacetone*) and its oximes (HOERING), 1905, A., i, 903.
- formation of, from anethole glycol (TIFFENEAU and DAUFRESNE), 1907, A., i, 701.
- 1-*o*-Methoxybenzyl-3-methyl-5-pyrazolone (CURTIUS and DETOROS), 1912, A., i, 506.
- 1-*a*-Methoxybenzyl-2-naphthol-3-carboxylic acid, methyl ester of (FRIEDL), 1910, A., i, 742.
- p*-Methoxybenzylcyclopentene and its compound with bromine (THIELE and BALHORN), 1906, A., i, 640.
- 4-Methoxy-5-benzylpyrimidine, 6-chloro-2-amino-, and 2:6-dichloro- (KAST), 1912, A., i, 1023.
- 4-*p*-Methoxybenzylisoquinoline and its platinichloride (RÜGHEIMER and ALBRECHT), 1903, A., i, 439.
- methiodide (RÜGHEIMER and SCHAUMANN), 1903, A., i, 439.
- o*-Methoxybenzylsemicarbazide (CURTIUS and DETOROS), 1912, A., i, 507.
- Methoxyberberinium salts (PYMAN), 1911, T., 1696; P., 215.
- 2-Methoxybrazan (v. KOSTANECKI and LAMPE), 1908, A., i, 672.
- 2-Methoxybrazanquinone (v. KOSTANECKI and LAMPE), 1908, A., i, 672.
- d*nitro- (v. KOSTANECKI and LAMPE), 1908, A., i, 907.
- $\delta$ -Methoxybutane,  $\alpha\beta$ -dihydroxy-, and its diphenylurethane (PARISELLE), 1909, A., i, 691.
- $\delta$ -Methoxybutane  $\alpha\alpha\gamma\gamma$ -tetracarboxylic acid and its ethyl ester and silver salt, synthesis and hydrolysis of (SIMONSEN), 1908, T., 1784.
- tetraethyl ester, preparation of (PERKIN and SIMONSEN), 1909, T., 1171.
- $\alpha$ - and  $\beta$ -Methoxybutan- $\beta$ -ones and their phenylhydrazones (GAUTHIER), 1909, A., i, 354.
- $\gamma$ -Methoxybutyric acid,  $\alpha\beta$ -dihydroxy- (IRVINE and HYND), 1909, T., 1226; P., 176.
- 3'-Methoxycaffeine, 8-chloro- (FISCHER and ACH), 1906, A., i, 219.
- Methoxycamphoroxalic acid, methyl ester (TINGLE and BATES), 1911, A., i, 54.
- 3-Methoxycarbazole and its picrate (BORSCHKE, WHITE, and BOTHE), 1908, A., i, 368.
- 6 or 7-Methoxyisocarbostryl-3-carboxylic acid, 4-hydroxy-, methyl ester (KUSEL), 1904, A., i, 619.



- 3-Methoxychalkone.** See Phenyl 3-methoxystyryl ketone.
- 4'-Methoxychalkone,** 2-hydroxy-. See 4-Methoxyphenyl 2-hydroxystyryl ketone.
- Methoxydichloroacetic acid,** methyl ester, condensation of, with aniline, phenylhydrazine, piperidine, and *p*-toluidine (LANDER), 1904, T., 984; P., 131.
- p*-**Methoxy- $\alpha$ -chlorobenzyldeoxybenzoin** (KLAGES and TETZNER), 1903, A., i, 101.
- 2-Methoxy-1- $\alpha$ -chloroethylbenzene** and its salts (KLAGES and EPPELSHEIM), 1904, A., i, 45.
- $\alpha$ -Methoxy-*p*-chlorophenylacetic acid** (STRAUS), 1912, A., i, 992.
- $\beta$ -Methoxy- $\alpha\alpha$ -dichloropropylene** (VITORIA), 1905, A., i, 110.
- 7-Methoxychromanone** and its semicarbazone (PERKIN and ROBINSON), 1912, P., 7.
- 2-Methoxycinchonic acid** and its methyl ester (MEYER), 1906, A., i, 108; (MULERT), 1906, A., i, 534.
- p*-**Methoxycinnamaldazine**, liquid crystals of (ROTARSKI), 1908, A., i, 641.
- p*-**Methoxycinnamaldehyde** and its phenylhydrazone and semicarbazone (SCHOLTZ and WIEDEMANN), 1903, A., i, 437.
- presence of, in oil of tarragon, and its oxime and semicarbazone (DAUFRESNE), 1908, A., i, 19; (DAUFRESNE and FLAMENT), 1908, A., i, 558.
- 6-*o*-Methoxycinnamamide** (STOERMER, FRIDERICI, BRÄUTIGAM, and NECKEL), 1911, A., i, 296.
- b-o*-**Methoxycinnamic acid**, ethyl ester (STOERMER, FRIDERICI, BRÄUTIGAM, and NECKEL), 1911, A., i, 297.
- m*-**Methoxycinnamic acid**, methyl ester (POSNER), 1911, A., i, 53.
- m*-**Methoxycinnamic acid**,  $\alpha$ -amino-, benzoyl derivative, lactone of (PSCHORR, DICKHÄUSER, and ZEIDLER), 1912, A., i, 766.
- 4-amino-, acetyl derivative (KHOTINSKY and JACOPSON-JACOPMANN), 1909, A., i, 805.
- 6-bromo- $\alpha$ -amino-,  $\alpha$ -benzoyl derivative, and its lactone (PSCHORR and KOCH), 1912, A., i, 766.
- 4:6-*di*hydroxy- (MOORE), 1911, T., 1046; P., 119.
- v*-**Methoxycinnamic acid**, synthesis of (BUNGE), 1909, A., i, 478.
- liquid crystals of (ROTARSKI), 1908, A., i, 640.
- p*-**Methoxycinnamic acid**, disulphide (CURTIUS and KASTNER), 1911, A., i, 333.
- p*-**Methoxycinnamic acid**, 3:5-*di*iodo-, and its salts and esters (WHEELER and JOHNS), 1910, A., i, 114.
- p*-**Methoxyallorcinnamic acid** and its derivatives (STOERMER, FRIDERICI, BRÄUTIGAM, and NECKEL), 1911, A., i, 297.
- 2-Methoxycoumaran**, 4:6-*di*bromo- (FRIES and MOSKOPP), 1910, A., i, 332.
- Methoxycoumaranone** (FELIX and FRIEDLÄNDER), 1910, A., i, 279.
- 3-Methoxycoumaranone** (BLOM and TAMBOR), 1905, A., i, 916.
- 2-Methoxycoumarilic acid** and its ethyl ester (AUWERS), 1912, A., i, 1009.
- 8-Methoxycoumarin** (NOELTING), 1910, A., i, 177.
- 2-Methoxycoumarone** (AUWERS), 1912, A., i, 1009.
- 5-Methoxycoumarone** (DUMONT and v. KOSTANECKI), 1909, A., i, 320.
- 2-Methoxy-4-cyanobenzyl- $\alpha$ -naphthol** and its acetate (SACHS and CRAVERI), 1905, A., i, 910.
- p*-**Methoxydeoxybenzoin** and its bromo-derivative (MEISENHEIMER and JOCHELSON), 1907, A., i, 861.
- 7-Methoxy-9:10-*di-p*-anisyl-4:9-dihydro-acenaphthylene** (BESCHKE and KITAJ), 1909, A., i, 918.
- 7-Methoxy-9:10-*di-p*-anisyl-1:2:3:4-tetrahydroacenaphthene** (BESCHKE and KITAJ), 1909, A., i, 918.
- 2-Methoxydibenzyl** (v. KOSTANECKI, ROST, and SZUBRAŃSKI), 1905, A., i, 341.
- 2-Methoxydibenzyl**, 4'-hydroxy- (STOERMER and FRIEMEL), 1911, A., i, 633.
- 2-Methoxydibenzyl- $\alpha$ -carboxylic acid** (CZAPLICKI, v. KOSTANECKI, and LAMPE), 1909, A., i, 235.
- $\alpha$ -Methoxy- $\alpha\alpha$ -*di-p*-chlorophenyl- $\Delta^{86}$ -pentadiene** (STRAUS), 1912, A., i, 992.
- 2-Methoxy-5:5-diethylbarbituric acid** (FARBENFABRIKEN VORM. F. BAYER & Co.), 1912, A., i, 1025.
- 4-Methoxydiethylphthalide** and its nitro-derivative (BAUER), 1911, A., i, 871.
- 5-Methoxydiethylphthalide**, 4:6-*di*-amino-, and its diacetyl derivative (BAUER), 1908, A., i, 274.
- $\beta$ -Methoxydihydroanethole**,  $\alpha$ -hydroxy- (MAMELI and BIGNAMI), 1909, A., i, 715.



- 7-Methoxy-3:4-dihydro-1:4-benzopyrone** (TSCHITSCHIBABIN and NIKITIN), 1911, A., i, 1007.
- Methoxydihydro- $\beta$ -camphylic acid** (PERKIN), 1903, T., 844, 869.
- 4-Methoxydihydrochalcone** and its semicarbazone (BARGELLINI and BINI), 1912, A., i, 118.
- Methoxydihydrodicyclopentadiene**, nitro- (RULE), 1908, T., 1562; P., 175. and its reactions (WIELAND and STENZL), 1903, A., i, 519.
- 10-Methoxy-1:2-dihydronaphthacridine** (BUCHERER and SEYDE), 1907, A., i, 345.
- 2-Methoxydihydro-6-pyrimidone**, 4-imino- (ENGELMANN), 1909, A., i, 192.
- 6-Methoxydihydroquinaldine-5-aldehyde**, 7-hydroxy-, and its salts (BOOK), 1903, A., i, 654.
- 6-Methoxy-di- and -tetra-hydroquinaldine-5-carboxylic acids**, 4:7-dihydroxy-, and their salts (BOOK), 1903, A., i, 653.
- $\alpha$ -Methoxydihydroisosafrrole**, bromoderivatives (HOERING), 1905, A., i, 903.
- $\beta$ -Methoxydihydroisosafrrole**,  $\alpha$ -hydroxy-, and its acetyl derivative (MAMELI and BONU), 1909, A., i, 715.
- Methoxy-*o*-dihydroxycatechol hemi-ether**, hexachloro-, and its derivatives (JACKSON and KELLEY), 1912, A., i, 275.
- $\beta$ -Methoxy- $\beta$ -3:4-dimethoxyphenylethane**,  $\alpha$ -nitro- (ROSENMUND), 1912, A., i, 449.
- $\beta$ -Methoxy- $\beta$ -3:4-dimethoxyphenylethylamine** and its hydrochloride (ROSENMUND), 1912, A., i, 449.
- 3-Methoxy-4-dimethylaminoethoxyphenanthrene** and its additive salts and methiodide (KNORR), 1905, A., i, 813.
- 4-Methoxy-1:3-dimethylanthraquinone** (BENTLEY, GARDNER, WEIZMANN, and TEMPERLEY), 1907, T., 1635.
- 4-Methoxy-2:6-dimethylbenzaldehyde** and its oxime, synthesis of (GATTERMANN), 1908, A., i, 33.
- 4-Methoxy-3:5-dimethylbenzaldehyde**, synthesis of (GATTERMANN), 1908, A., i, 33.
- 4-Methoxy-3:5-dimethylbenzophenone** (AUWERS and v. MARKOVITS), 1908, A., i, 630.
- 2'-Methoxy-3':5'-dimethyl-2-benzoylbenzoic acid** (BENTLEY, GARDNER, WEIZMANN, and TEMPERLEY), 1907, T., 1634.
- 5-Methoxy-2:3-dimethylcoumarilic acid** and its ethyl ester and potassium salt (v. KOSTANECKI and TAMBOR), 1909, A., i, 319.
- 5-Methoxy-2:3-dimethylcoumarilyl chloride** (TAMBOR, GÜNSBERG, KELLER, CHANSCHY-HERZENBERG, ROSENKNOPF, and LICHTENBAUM), 1912, A., i, 44.
- 5-Methoxy-2:3-dimethylcoumarone** (v. KOSTANECKI and TAMBOR), 1909, A., i, 319.
- 8-Methoxy-5:7-dimethylfluorone** (LIEBSCHÜTZ and WENZEL), 1904, A., i, 518.
- 3-Methoxy-1:1-dimethyl- $\Delta^3$ -cyclohexenylidene-5-cyanoacetic acid** and isomeric ethyl esters of (CROSSLEY and GILLING), 1910, T., 528.
- 5-Methoxy-1:3-dimethylhydantoylmethylamide** (BILTZ), 1910, A., i, 523.
- 4-Methoxy-2:6-dimethylphenol** (BAMBERGER), 1903, A., i, 624.
- 3(5)-Methoxy-5(3):7-dimethylphenoxazone**, 4-amino-, and its dihydrochloride and acetyl derivative (HENRICH and ROTERS), 1909, A., i, 57.
- 6-Methoxy-2:4-dimethylpyridine**, 3-cyano- (v. MEYER and HENNING), 1908, A., i, 911.
- 6-Methoxy-2:5-dimethylpyridine-3-carboxylic acid** and its ethyl ester (ERRERA and LABATE), 1904, A., i, 190.
- 5-Methoxy-2:4-dimethylquinoline** and its salts (KOENIGS and MENGEL), 1904, A., i, 528.
- p*-Methoxy-4:6-dimethyl-2-stilbazole** and its salts (PROSKE), 1909, A., i, 414.
- Methoxydicyclopentadiene**, compound of, with platinous chloride (HOFMANN and v. NARBUTT), 1908, A., i, 519.
- 2-Methoxydiphenyl** (JACOBSON, FRANZ, and HÖNIGSBERGER), 1904, A., i, 203.
- Methoxydiphenyl sulphide** (HINSBERG), 1903, A., i, 251.
- o*-Methoxydiphenyl sulphide** (MAUTHNER), 1906, A., i, 949.
- 7-Methoxy-9:9-diphenylacenaphthenone**, 2-hydroxy-, and its benzoate (BESCHKE, BEITLER, and STRUM), 1909, A., i, 917.
- 2'-Methoxydiphenylacetamide**, 4-hydroxy- (BISTRZYCKI, PAULUS, and PERRIN), 1911, A., i, 869.
- $\alpha$ -Methoxydiphenylacetanilide** (KLINGER), 1912, A., i, 557.

- $\alpha$ -Methoxydiphenylacetic acid** (KLINGER), 1912, A., i, 701.
- 2'-Methoxydiphenylacetic acid**, 2'-hydroxy-, lactone of (BISTRZYCKI, PAULUS, and PERRIN), 1911, A., i, 869.
- 4'-Methoxydiphenylacetic acid**, 4-hydroxy- (BISTRZYCKI, PAULUS, and PERRIN), 1911, A., i, 868.
- 4'-Methoxydiphenylacetoneitrile**, 4-hydroxy-, and its acetyl derivative (BISTRZYCKI, PAULUS, and PERRIN), 1911, A., i, 868.
- 3:4-dihydroxy-, and its diacetate (BISTRZYCKI, PAULUS, and PERRIN), 1911, A., i, 868.
- 2-Methoxydiphenylamine** (ULLMANN and KIPPER), 1907, A., i, 845.
- 2-Methoxydiphenylamine**, 4'-amino-, and 4'-nitro- (ULLMANN and JÜNGEL), 1909, A., i, 375.
- dichloro-2':4'-dinitro- (REVERDIN and CRÉPIEU), 1903, A., i, 858.
- 3-Methoxydiphenylamine**, 2:4-dinitro- (BLANKSMA), 1909, A., i, 150.
- 4:6-dinitro- (BLANKSMA), 1904, A., i, 577.
- 2:4:6-trinitro- (BLANKSMA), 1903, A., i, 158.
- 4-Methoxydiphenylamine** and *N*- and 4'-nitroso-, and 4'-amino-, leucobase and imine from (WILLSTÄTTER and KUBLI), 1909, A., i, 976.
- 4-Methoxydiphenylamine**, 4'-chloro- (WIELAND and SÜSSER), 1912, A., i, 905.
- 4'-nitro- (ULLMANN and JÜNGEL), 1909, A., i, 375.
- 4-Methoxydiphenylamine-2-carboxylic acid** (ULLMANN and KIPPER), 1905, A., i, 597.
- 5-Methoxydiphenylamine-2-carboxylic acid** (ULLMANN and WAGNER), 1907, A., i, 848.
- Methoxydiphenylamine-2-carboxylic acids**, 2'- and 3'- (ULLMANN and KIPPER), 1907, A., i, 845.
- Methoxydiphenylamine-2-sulphonic acid**, 4-nitro-4'-, and its potassium salt, 4-amino-4'-, 4-nitro-2'-, and its potassium salt, and 4-amino-2'- (ULLMANN and JÜNGEL), 1909, A., i, 375.
- $\alpha$ -Methoxy- $\alpha$ -diphenylbutane**,  $\beta\delta$ -dinitro-, and its monophenylhydrazone and tribromo-derivative (MEISENHEIMER and HEIM), 1905, A., i, 269.
- reactions of, and its bromo-derivatives (MEISENHEIMER and HEIM), 1907, A., i, 859.
- 7-Methoxy-9:10-diphenyl-3:4-dihydro-acenaphthene** and its additive product with bromine (BESCHKE and KITAJI), 1909, A., i, 918.
- 2-Methoxy-3:4-diphenyl-5:5-dimethyl- $\Delta^2$ -cyclopentenone** (GRAY), 1909, T., 2147.
- $\alpha$ -Methoxy- $\alpha$ -diphenylethane**,  $\beta$ -nitro-, stereoisomeric, preparation of (HEIM), 1911, A., i, 717.
- $\alpha$ -Methoxy- $\alpha$ -diphenyl-ethane and -ethylene** (STOERMER and KIPPE), 1904, A., i, 182.
- $\alpha$ -Methoxy- $\alpha$ -diphenylethanes** ( $\alpha$ - and  $\beta$ -),  $\beta$ -nitro-, reactions of (MEISENHEIMER and HEIM), 1907, A., i, 859.
- $\alpha$ -*p*-Methoxy- $\alpha$ -diphenylfulgenic acid** and the fulgide (STOBBE, BADENHAUSEN, and KAUTZSCH), 1906, A., i, 279.
- 5-Methoxy-4:5-diphenylisoglyoxalone** and its acetate (BILTZ and RIMPEL), 1909, A., i, 743.
- $\alpha$ -Methoxydiphenylmethane**, tetrabromo-*p*-dihydroxy-, and tetrachloro-*p*-dihydroxy-, and its diacetate (ZINCKE and BIRSCHEL), 1908, A., i, 782.
- $\delta$ -Methoxy- $\alpha$ -diphenyl- $\delta$ -*p*-methoxy- and - $\delta$ -*mp*-methylenedioxy-phenyl- $\beta$ -butanones** (HERTZKA), 1905, A., i, 291.
- 5-Methoxy-4:5-diphenyl-1-methylisoglyoxalone** (BILTZ and RIMPEL), 1909, A., i, 743.
- 4-Methoxy-3:4-diphenyl-2-methyl- $\Delta^2$ -cyclopentenone** (GRAY), 1909, T., 2135.
- p*-Methoxydiphenylphthalide** (MEYER and FISCHER), 1911, A., i, 723.
- 8-Methoxy-2:3-diphenylquinoxaline**, 7-hydroxy- (FICHTER and SCHWAB), 1906, A., i, 842.
- 2'-Methoxydiphenylsulphone-2-sulphinic acid** (FRIES and VOGT), 1911, A., i, 557.
- 2'-Methoxydiphenylsulphone-2-sulphonic acid**, and its anilide (FRIES and VOGT), 1911, A., i, 557.
- 2'-Methoxydiphenylsulphone-2-sulphonyl chloride** (FRIES and VOGT), 1911, A., i, 557.
- 7-Methoxy-9:10-diphenyl-1:2:3:4-tetrahydroacenaphthene** (BESCHKE and KITAJI), 1909, A., i, 918.
- 3-Methoxy-1:4-diphenyl-1:2:4-triazolone** (BUSCH and LIMPACH), 1911, A., i, 335.
- Methoxyeosin** (FRIEDL, WEIZMANN, and WYLER), 1907, T., 1586.
- 4-Methoxy-4'-ethoxyazoxybenzene**. See *p*-Anisoleazoxyphenetole.

- 1-Methoxy-3-ethoxybenzene**, 2:6-*di*- and 2:4:6-*tri*-nitro- (BLANKSMA), 1908, A., i, 158.
- 3-Methoxy-4-ethoxybenzenesulphonic acid** and its amide and chloride (PAUL), 1906, A., i, 843.
- $\alpha$ -Methoxy- $\alpha$ -ethoxyethane**,  $\beta\beta$ -*dichloro*- (ODDO and MAMELI), 1904, A., i, 281.
- Methoxyethoxy-*N*-ethylisoquinolone** (DECKER and DUNANT), 1908, A., i, 206.
- Methoxyethoxymethane** (HENRY), 1908, A., i, 381.
- Methoxyethoxy-2-methylbenzaldehyde** and its oxime, synthesis of (GATTERMANN), 1908, A., i, 34.
- Methoxyethoxy-*N*-methylisoquinolone** (DECKER and DUNANT), 1908, A., i, 206.
- 3-Methoxy-4-ethoxy-1-propylbenzene**, 2: $\beta$ -*di*- and 2:5: $\beta$ -*tri*-bromo- $\alpha$ -hydroxy- and their methyl ethers (HELL and BAUER), 1904, A., i, 386.
- 2-Methoxy-4'-ethoxystilbene** (STOERMER and FRIEMEL), 1911, A., i, 632.
- $\alpha$ -Methoxyethylbenzene**,  $\beta$ :3:5-*tribromo*-2-hydroxy-, and  $\beta$ : $\beta$ :3:5-*tetrabromo*-2-hydroxy- (FRIES and MOSKOPF), 1910, A., i, 332.
- 4-Methoxy-3-ethylisocarbostyryl** (ULRICH), 1904, A., i, 529.
- 4-Methoxy-1-ethylphthalazine** (DAUBE), 1905, A., i, 210.
- 6-Methoxy-1-ethyl-2-quinolone** and its salts (DECKER and ENGLER), 1903, A., i, 518.
- 6-Methoxy-flavanone** and 3 *isonitroso*-, and -*flavonol* and its acetyl derivative (v. KOSTANECKI and LAMPE), 1904, A., i, 440.
- 7-Methoxy-flavanone** and *isonitroso*-, and -*flavonol* and its acetyl derivative (v. KOSTANECKI and STOPPANI), 1904, A., i, 443.
- 3'-Methoxy-flavanone**, 3-*isonitroso*-, and -*flavonol* and its acetyl derivative (GUTZEIT and v. KOSTANECKI), 1905, A., i, 366.
- 4'-Methoxy-flavanone** and 3-*isonitroso*-, and -*flavonol* and its acetyl derivative (EDELSTEIN and v. KOSTANECKI), 1905, A., i, 460.
- 2'-Methoxyflavone** (PISTERMANN and TAMBOR), 1912, A., i, 486.
- 3-Methoxyfluorenone** (ULLMANN and BLEIER), 1903, A., i, 176.
- and its 2-carboxylic acid and its methyl ester (ERRERA and LA SPADA), 1906, A., i, 277.
- and its diacetate (FRIEDL, WEIZMANN, and WYLER), 1907, T., 1586; P., 214.
- Methoxyfluorescein**, methyl ester, phenolbataine and chloride of (KEHRMANN, DENGLE, and SCHEUNERT), 1909, A., i, 250.
- Methoxyfluorescein**, *tetrabromo*-. See Methoxyeosin.
- $\alpha$ -Methoxyglyoxaline-4-propionic acid** and its hydrochloride and methyl ester hydrochloride (GERNGROSS), 1909, A., i, 189.
- Methoxy-groups**, elimination of (v. KOSTANECKI and LAMPE), 1908, A., i, 442.
- replacement of, by alkyl radicles (REFORMATSKY), 1906, A., i, 136.
- replacement of the acetyl group by, under the action of diazomethane (HERZIG and TICHATSCHKE), 1906, A., i, 173.
- detection of (HERZIG), 1908, A., ii, 638.
- estimation of (GOLDSCHMIEDT and HÖNIGSCHMID) 1904, A., ii, 94; (STRITAR), 1904, A., ii, 95; (KROPATSCHEK), 1904, A., ii, 686; (KIRPAL), 1908, A., ii, 436.
- estimation of, in soils (SHOREY and LATHROP), 1911, A., ii, 327.
- simplification of Zeisel's method of estimating (PERKIN), 1903, T., 1367; P., 239.
- $\alpha$ -Methoxyhexane**,  $\zeta$ -bromo-, and its magnesium derivative (DIONNEAU), 1907, A., i, 747.
- $\delta$ -Methoxy- $\Delta^{\beta}$ -hexene** (REIF), 1906, A., i, 394; 1908, A., i, 847.
- Methoxy- $\Delta^2$ -cyclohexene** (BRUNEL), 1905, A., i, 869.
- Methoxyhexylene** and its dibromide (DIONNEAU), 1910, A., i, 354.
- $\alpha$ -Methoxycyclohexylmalonic acid**, ethyl ester (HOPE and PERKIN), 1909, T., 1366.
- p*-Methoxyhydratropylpyruvic acid**, iodo-lactone from (BOUGAULT), 1908, A., i, 539.
- m*-Methoxyhydrazobenzene** (JACOBSON, FRANZ, and HÖNIGSBERGER), 1904, A., i, 203.
- Methoxyhydropinene**, oximino-, and its urethane derivative (DEUSSEN and PHILIPP), 1910, A., i, 575.
- Methoxy-1- $\alpha$ -hydroxyethylbenzenes**, 2-, 3-, and 4-, and their phenylurethanes (KLAGES and EPPELSHEIM), 1904, A., i, 45.
- 6(or 7)-Methoxy-7(or 6)-[7(or 6)-hydroxy-6(or 7)-methoxy-2-methyl-3:4-dihydroisoquinoliniumoxy]-2-methyl-3:4-dihydroisoquinolinium chloride** (PYMAN), 1910, T., 278.



- 6-Methoxy-5-hydroxymethyldihydro-quinaldine, 7-hydroxy-, and its aurichloride (BOOK), 1903, A., i, 654.
- 6(or 7)-Methoxy-7(or 6)-[6:7-dihydroxy-2-methyl-3:4-dihydroisoquinolinium-oxy]-2-methyl-3:4-dihydroisoquinolinium chloride and iodide (PYMAN), 1910, T., 279.
- 2-Methoxy-4- $\alpha$ -hydroxypropylphenol, 6: $\beta$ -di- and 3:6: $\beta$ -tri-bromo-, and their acetyl derivatives (ZINCKE and HAHN), 1904, A., i, 42.
- 2-Methoxyindene, 3-cyano- (MOORE and THORPE), 1908, T., 180; P., 13.
- 3-Methoxyindene, 2-cyano- (MITCHELL and THORPE), 1910, T., 2278.
- 7-Methoxy-2:3-indenobenzopyranol (1:4) anhydroferrichloride (PERKIN and ROBINSON), 1908, T., 1102.
- 7-Methoxy-4:3-indenobenzopyranol (1:4), 4':5'-dihydroxy-, salts of (ENGELS, PERKIN, and ROBINSON), 1908, T., 1150.
- Methoxyindiazoneoxime, hydroxy- (SUMULEANU), 1903, A., i, 635.
- 3-Methoxyindole and its -2-carboxylic acid and ethyl ester (AUWERS), 1912, A., i, 1011.
- 3-Methoxyindone-2-carboxylic acid, ethyl ester (HANTZSCH and GAJEWSKI), 1912, A., i, 870.
- 4-Methoxy-1-indoxylbenzene and its sulphonic acid (FRIEDLÄNDER and SCHULOFF), 1908, A., i, 674.
- 5- and 7-Methoxyisatin (KALLE & Co.), 1910, A., i, 278.
- 5-Methoxyisatin-3-phenylhydrazine (BAUER), 1909, A., i, 467.
- 1-Methoxyisatoxime (REISSERT), 1909, A., i, 52.
- 5-Methoxy-2-isatoxime and its sodium derivative (WIELAND, SEMPER, and GMELIN), 1909, A., i, 610.
- 4'-Methoxy- $\beta$ -ketodibenzyl. See *p*-Methoxydeoxybenzoin.
- $\alpha$ -Methoxy- $\beta$ -ketopropane. See Methyl acetolate.
- $\beta$ -Methoxylamino- $\beta$ -phenylpropionic acid (POSNER), 1906, A., i, 955.
- o*-Methoxyleucomalachite-green (VOTOČEK and JELÍNEK), 1907, A., i, 245; (VOTOČEK and KRAUZ), 1909, A., i, 519.
- p*-Methoxymandelic acid, optically active, and its ethyl ester and amide (KNORR), 1904, A., i, 894.
- m*-Methoxymandelonitrile (CZAPLICKI, v. KOSTANECKI, and LAMPE), 1909, A., i, 235.
- $\beta$ -Methoxymelilotic acid (BILLMANN and STARCKE), 1912, A., i, 461.
- $\beta$ -Methoxymelilotic acid and its methyl ester (BILLMANN and HOFF), 1912, A., i, 462.
- p*-Methoxymesityl bromide, dibromo-, and its compounds with bases (AUWERS and SCHRENK), 1906, A., i, 269.
- o*-Methoxymethoxybenzaldehyde (HOERING and BAUM), 1909, A., i, 572.
- o*-Methoxymethoxybenzoic acid and its methyl ester (HOERING and BAUM), 1909, A., i, 572.
- Methoxy- $\beta$ -methoxycrotonic acid and its ethyl and methoxymethyl esters and silver salt (SIMONSEN and STOREY), 1909, T., 2109; P., 290.
- 5-Methoxy-2-*p*-methoxyphenoxybenzoic acid (5-methoxy-*p*-anisylsalicylic acid) (v. BAEYER, AICKELIN, DIEHL, HALLENLEBEN, and HESS), 1910, A., i, 252.
- $\beta$ -Methoxy- $\beta$ -*p*-methoxyphenylethylamine and its hydrochloride (ROSENMUND), 1912, A., i, 449.
- 2- and 4-Methoxy-1-methyl-3-acetonylbenzene and their derivatives (GUILLAUMIN), 1910, A., i, 478.
- 2-Methoxy-1-methyl-3- $\psi$ -allylbenzene (GUILLAUMIN), 1910, A., i, 375.
- 3-Methoxy-1-methyl-4- $\psi$ -allylbenzene (GUILLAUMIN), 1910, A., i, 375. and its polymeride (BÉHAL and TIFFENEAU), 1908, A., i, 631.
- p*'-Methoxymethylaminoazobenzene, *p*-nitro- (WITT and KOPETSCHNI), 1912, A., i, 518.
- o*-Methoxy-*m*-methyl- $\alpha$ -anilinoethylbenzene and its *N*-acetyl derivative (ANSELMINO), 1907, A., i, 914.
- Methoxymethylanthraquinone, hydroxy-, and its acetyl derivative from the root of *Morinda longiflora* (BARROWCLIFF and TUTIN), 1907, T., 1912; P., 248.
- 2-Methoxy-1-methylanthraquinone, and its amino- and its acetyl derivative, bromo-, and nitro-derivatives (BENTLEY, GARDNER, and WEIZMANN), 1907, T., 1631.
- 4-Methoxy-1-methylanthraquinone (FISCHER and SAPPER), 1911, A., i, 280. and 6(7)-hydroxy- (BENTLEY, GARDNER, WEIZMANN, and ANDREW), 1907, T., 1633.
- 7(or 5)-Methoxy-5(or 7)-methylanthraquinone, 1:4-dichloro- (WALSH and WEIZMANN), 1910, T., 692.
- 6-Methoxy-2-methylbenzaldehyde, 4-hydroxy-, and its azine, oxime, and phenylhydrazine (GATTERMANN), 1908, A., i, 31.

- 3-Methoxy-4-methyl-1:2-benzanthraquinone** (SCHOLL, NEUBERGER, TRITSCH, and POTSCHWAUSCHEG), 1912, A., i, 563.
- 3-Methoxy-4-methyl-1:2-benzanthrone-9** (SCHOLL, NEUBERGER, TRITSCH, and POTSCHWAUSCHEG), 1912, A., i, 563.
- 2-Methoxy-5-methylbenzophenone**, 4'-amino-, 4'-hydroxy-, and 4'-nitro- (AUWERS and RIETZ), 1907, A., i, 938.
- 4'-Methoxy-5-methylbenzophenone**, 2-hydroxy-, and its dibromo-derivative (AUWERS and RIETZ), 1907, A., i, 938.
- Methoxy-3-methyl- $\beta$ -benzoylacrylic acid** (BENTLEY, GARDNER, and WEIZMANN), 1907, T., 1640.
- 2'-Methoxy-5'-methyl-2-benzoylbenzoic acid** (BENTLEY, GARDNER, WEIZMANN, and ANDREW), 1907, T., 1633.
- 4'-Methoxy-5'-methyl-2-benzoylbenzoic acid** and bromo- (BENTLEY, GARDNER, and WEIZMANN), 1907, T., 1630.
- Methoxymethyl- $\beta$ -benzoylpropionic acid** (BENTLEY, GARDNER, and WEIZMANN), 1907, T., 1640.
- 2-Methoxy-5-methylbenzylidene-*p*-aminophenol** (MANCHOT and PALMBERG), 1912, A., i, 350.
- 2-Methoxy-5-methylbenzylidene-*p*-anisidine** (MANCHOT and PALMBERG), 1912, A., i, 350.
- 4-Methoxy-1-methyl-3:5-bistetramethylaminobenzhydrylbenzene** (ULLMANN and BRITNER), 1909, A., i, 591.
- 3-Methoxy-1-methylbrazanquinone** (GRAFMAN and v. KOSTANECKI), 1909, A., i, 251.
- $\beta$ -Methoxy-3-methyl- $\alpha$ -bromomethylstyrene**,  $\beta$ :5-*di*bromo-6-hydroxy-, and its acetate (FRIES and MOSKOPF), 1910, A., i, 334.
- 2-Methoxy-4-methyl- $\alpha$ -bromomethylstyrene**,  $\beta$ :3:3:5-*tetra*bromo- (FRIES and VOLK), 1910, A., i, 334.
- $\beta$ -Methoxy-4-methyl- $\alpha$ -bromomethylstyrene**,  $\beta$ :3:5-*tri*bromo-2-hydroxy-, and its methyl ether (FRIES and VOLK), 1910, A., i, 333.
- 3-Methoxy-5-methyl-2-trichloromethylphthalide** (MELDRUM), 1911, T., 1716.
- 5-Methoxy-3-methyl-2-trichloromethylphthalide** (MELDRUM), 1911, T., 1716.
- 2-Methoxy-3-methylcinchonic acid**, methyl ester, amide and anilide of (ORNSTEIN), 1907, A., i, 444.
- p*-Methoxy- $\beta$ -methylcinnamic acid** (SCHOETER and BUCHHOLZ), 1908, A., i, 170.
- 5-Methoxy-2-methyl-coumaran and -coumarone** (v. KOSTANECKI and LAMPE), 1908, A., i, 443.
- 5-Methoxy-2-methylcoumarilic acid** and its methyl and ethyl esters (v. KOSTANECKI and LAMPE), 1908, A., i, 442.
- 2-Methoxy-4-methylcoumarilic acid** and its ethyl ester (AUWERS), 1912, A., i, 1010.
- 5-Methoxy-2-methylcoumarilyl chloride** (TAMBOER, GÜNSBERG, KELLER, CHANSCHY-HERZENBERG, ROSENKNOPF, and LICHTENBAUM), 1912, A., i, 45.
- 4-Methoxy-7-methylcoumarin-3-carboxylic acid**, ethyl ester (ANSCHÜTZ, WAGNER, and JUNKERSDORF), 1909, A., i, 663.
- 4-Methoxy-2-methylcoumarone** (v. GRAFFENRIED and v. KOSTANECKI), 1910, A., i, 630.
- 2-Methoxy-4-methylcoumarone** (AUWERS), 1912, A., i, 1010.
- 3-Methoxy-1-methyl-1':4'-diacetobrazan** (GRAFMAN and v. KOSTANECKI), 1909, A., i, 251.
- 2-Methoxy-1-methyldihydro-6-pyrimidone**, 4-imino-, 5-oximino-4-imino-, and 4:5-*di*amino- (ENGELMANN), 1909, A., i, 192.
- 6(or 7)-Methoxy-2-methyl-3:4-dihydro-*iso*-quinolinium**, 7(or 6)-hydroxy-, chloride and iodide (PYMAN), 1910, T., 278.
- 2'-Methoxy-3-methyldiphenylacetamide**, 4-hydroxy- (BISTRZYCKI, PAULUS, and PERRIN), 1911, A., i, 869.
- 4'-Methoxy-5-methyldiphenylacetamide**, 2-hydroxy-, and its derivatives (BISTRZYCKI, PAULUS, and PERRIN), 1911, A., i, 868.
- 2'-Methoxy-3-methyldiphenylacetic acid**, 4-hydroxy-, lactone of (BISTRZYCKI, PAULUS, and PERRIN), 1911, A., i, 869.
- 2'-Methoxy-5-methyldiphenylacetic acid**, 2-hydroxy-, and its derivatives (BISTRZYCKI, PAULUS, and PERRIN), 1911, A., i, 869.
- 4'-Methoxy-3-methyldiphenylacetic acid**, 4-hydroxy- (BISTRZYCKI, PAULUS, and PERRIN), 1911, A., i, 868.
- 4'-Methoxy-5-methyldiphenylacetic acid**, 2-hydroxy- (BISTRZYCKI, PAULUS, and PERRIN), 1911, A., i, 868.
- 4'-Methoxy-3-methyldiphenylacetone**, 4-hydroxy-, and its acetyl derivative (BISTRZYCKI, PAULUS, and PERRIN), 1911, A., i, 868.

- 1-Methoxy-2:3-methylenedioxybenzene, 5-nitro-, and 5-amino-, and its hydrochloride and benzoyl derivative (SALWAY), 1909, T., 1161; P., 160.
- 3-Methoxy-4:5-methylenedioxybenzylamine and its salts (RÜGHEIMER and RITTER), 1912, A., i, 447.
- 8-Methoxy-6:7-methylenedioxy-1-benzyl-3:4-dihydroisoquinoline and its hydrochloride and picrate (SALWAY), 1910, T., 1214.
- 6-Methoxy-7:8-methylenedioxy-1-benzyl-3:4-dihydroisoquinoline and its hydrochloride and picrate (SALWAY), 1910, T., 1215.
- $\beta$ -3-Methoxy-4:5-methylenedioxybenzyliminopropyl methyl ketone (RÜGHEIMER and RITTER), 1912, A., i, 447.
- 8(5)-Methoxy-6:7-methylenedioxy-carbo-styryl methyl ether (SALWAY), 1909, T., 1218.
- 3-Methoxy-4:5-methylenedioxy-cinnamic acid, and action of nitric acid on, and 2(6)-amino-, methyl ester, and 2(6)-nitro-, and its methyl and ethyl esters (SALWAY), 1909, T., 1209.
- 8-Methoxy-6:7-methylenedioxy-3:4-dihydroisoquinoline and its picrate (DECKER), 1912, A., i, 581.
- 8(5)-Methoxy-6:7-methylenedioxy-1:2-dihydro-2-quinolone and its hydrochloride, and reduction products (SALWAY), 1909, T., 1216.
- 3-Methoxy-4:5-methylenedioxy-1-dimethylaminoethylbenzene, 2-cyano-, and its hydrochloride and methiodide (FREUND and OPPENHEIM), 1909, A., i, 411.
- 2-Methoxy-3:4-methylenedioxy-6- $\beta$ -dimethylaminoethylstilbene, 2':4'- and 2':6'-dinitro- and derivatives (HOPE and ROBINSON), 1911, T., 2127, 2129.
- Methoxymethylenedioxy- $\alpha$ -hydrindone and its oxime (SALWAY), 1909, T., 1210.
- 3-Methoxy-4:5-methylenedioxy-1- $\beta$ -methylaminoethylbenzene, 2-cyano-, and its salts (RABE and McMILLAN), 1911, A., i, 77.
- 8(5)-Methoxy-6:7-methylenedioxy-1-methyl-1:2-dihydro-2-quinolone (SALWAY), 1909, T., 1218.
- 6-Methoxy-4:5-methylenedioxy-1-methyl-2-dimethylaminoethylbenzene (FINZI and FREUND), 1912, A., i, 898.
- Methoxymethylenedioxyphenylaminoacetone and its picrate and -nitroacetone (RIMINI), 1905, A., i, 199.
- $\beta$ -3-Methoxy-4:5-methylenedioxyphenylethylamine, and its hydrochloride and benzoyl derivative (SALWAY), 1910, T., 1212.
- 8-Methoxy-6:7-methylenedioxy-1-phenyl-2-methyl-1:2-dihydroisoquinoline (FREUND and LEDERER), 1911, A., i, 910.
- $\beta$ -3-Methoxy-4:5-methylenedioxyphenylpropionamide (SALWAY), 1910, T., 1211.
- 7-Methoxy-5:6-methylenedioxy-2-piperonylidene-1-hydrindone (PERKIN, ROBINSON, and THOMAS), 1909, T., 1983.
- $\beta$ -3-Methoxy-4:5-methylenedioxypropionic acid (SALWAY), 1909, T., 1209.
- Methoxy-3':4'-methylenedioxy-stilbenes, 2- and 4- (v. KOSTANECKI and SULSER), 1905, A., i, 352.
- Methoxy-3':4'-methylenedioxy-stilbene- $\beta$ -carboxylic acids, 2-, 3-, and 4- (v. KOSTANECKI and SULSER), 1905, A., i, 352.
- 3-Methoxy-4:5-methylenedioxy-styrene,  $\omega$ -2(6)-dinitro- (SALWAY), 1909, T., 1214.
- 2-Methoxy-3:4-methylenedioxy 6-vinylstilbene, 2':4'-dinitro- (HOPE and ROBINSON), 1911, T., 2130.
- Methoxymethylenephthalide (GABRIEL), 1907, A., i, 215.
- 7-Methoxy-5-methylflavone (TAMBOR), 1908, A., i, 350.
- Methoxy-7-methylflavones, 2', 3', and 4', 5-hydroxy-, and their sodium salts (TAMBOR), 1908, A., i, 358.
- $\alpha$ -Methoxymethylglutaric acid and its barium salt (SIMONSEN), 1908, T., 1783.
- $\alpha$ -Methoxy-1-methylcyclohexyl-4-malonic acid, ethyl ester, and potassium salt (HOPE and PERKIN), 1909, T., 1368.
- 1-Methoxy-1-methyl-2-hydrindone, 3:3-dichloro-5-bromo- (FRIES and HEMPELMANN), 1909, A., i, 810.
- Methoxymethylindole (LEONARDI and DE FRANCHIS), 1903, A., i, 787.
- $\beta$ -Methoxymethylmalonic acid, ethyl ester, synthesis and reactions of (SIMONSEN), 1908, T., 1780; P., 212.
- Methoxymethylmenthol (CHEMISCHE FABRIK AUF AKTIEN FORM. E. SCHERING), 1912, A., i, 479.
- 1-Methoxy-5-methyl-2-methylenecoumaran, 1:4:6-tribromo- (FRIES and VOLK), 1910, A., i, 333.
- 2-Methoxy-1-methylnaphthalene, 6-bromo- (BARGELLINI and SILVESTRI), 1907, A., i, 914.



- 2-Methoxy-1-methylnaphthalene-6-phthaloylic acid** (SCHOLL, NEUBERGER, TRITSCH, and POTSCHWAUSCHEG), 1912, A., i, 563.
- 6-Methoxy-5-methyl-2-naphthylphenylmethane-2-carboxylic acid** (SCHOLL, NEUBERGER, TRITSCH, and POTSCHWAUSCHEG), 1912, A., i, 563.
- Methoxymethylphenylglyoxylic acids**, 2:4- and 4:2- (EYKMAN), 1904, A., i, 665.
- 5-Methoxy-3-methylphthalic acid** and its anhydride (MELDRUM), 1911, T., 1718.
- 3-Methoxy-5-methylphthalic acid** and its anhydride (MELDRUM), 1911, T., 1720.
- 5-Methoxy-3-methylphthalide** (MELDRUM), 1911, T., 1718.
- 3-Methoxy-5-methylphthalide** (MELDRUM), 1911, T., 1720.
- 5-Methoxy-3-methylphthalide-2-carboxylic acid** and its calcium salt (MELDRUM), 1911, T., 1717.
- 3-Methoxy-5-methylphthalide-2-carboxylic acid** and its calcium salt (MELDRUM), 1911, T., 1719.
- 3-Methoxy-1-methyl-4-isopropylbenzene** (GUILLAUMIN), 1910, A., i, 375.
- $\beta$ -Methoxymethyl- $\beta$ -isopropylmalonic acid** and its ethyl ester and barium salt, synthesis of (SIMONSEN), 1908, T., 1787; P., 212.
- 3-Methoxy-2-methyl-4-pyridone** (PERATONER and TAMBURELLO), 1905, A., i, 808.
- 2-Methoxy-4-methylpyrimidine**, 6-hydroxy-, and its 5-ethyl derivative (BRUCE), 1904, A., i, 574.
- w*-Methoxymethylpyromucic acid** (COOPER and NUTTALL), 1911, T., 1199; P., 134.
- 4-Methoxy-2-methylquinazoline**, *tri*-chloro- (BOGERT and MAY), 1909, A., i, 330.
- 6-Methoxy-1-methylquinolan**, 4-cyano- (KAUFMANN, PEYER, and WIDMER), 1912, A., i, 651.
- 8-Methoxy-1-methylquinoline** (FISCHER, BERCKHEMER, and ULBRICHT), 1903, A., i, 53.
- 4-Methoxy-2-methylquinoline**. See 2-Methylkynurine, *O*-methyl ether.
- 6-Methoxy-4-methylquinoline**, synthesis of (PICTET and MISNER), 1912, A., i, 650.
- 6-Methoxy-2-methylquinoline-6-methylquinolinecyanine**, methiodide (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1906, A., i, 716.
- 6-Methoxy-1-methyl-2-quinolone** and 5-bromo- (HOWITZ and BARLOCHER), 1903, A., i, 279.
- 6-Methoxy-1-methyl-2-quinolone**, 5-nitro- (DECKER, ENGLER, and RUMINE), 1909, A., i, 513.
- 8-Methoxy-1-methyl-2-quinolone**, bromo-derivatives (HOWITZ and WITTE), 1905, A., i, 470.
- Methoxymethylsantalol** (CHEMISCHE FABRIK AUF AKTIEN VORM. E. SCHERING), 1912, A., i, 479.
- 4'-Methoxy-6-methyl-2-stilbazole** and its salts (PROSKE), 1909, A., i, 414.
- Methoxymethylsuberaneoxime** (WALLACH), 1906, A., i, 371.
- $\alpha$ -Methoxy- $\alpha$ -methylsuccinic acid**, ethyl ester (HOPE), 1912, T., 907.
- Methoxymethyltetrahydroanthraquinone**, *dihydroxy*- (TSCHIRCH and CRISTOFOLETTI), 1905, A., ii, 852.
- 2-Methoxy-1-methyltetrahydro-6-pyrimidine**, 4-imino- (FARBENFABRIKEN VORM. F. BAYER & Co.), 1909, A., i, 527.
- 8-Methoxy-2-methyltetrahydroisoquinoline**, 6- and 7-hydroxy- (PYMAN and REMFRY), 1912, T., 1606; P., 228.
- 6(or 7)-Methoxy-2-methyltetrahydroisoquinolone**, 7(or 6)-hydroxy-, and its sodium salt (PYMAN), 1910, T., 271.
- Methoxymethylthioldiphenylthiodiazoline** (BUSCH, KAMPHAUSEN, and SCHNEIDER), 1903, A., i, 532.
- Methoxymethylthiolphenyl-*p*-tolylthiodiazoline** (BUSCH and BLUME), 1903, A., i, 535.
- 4-Methoxy-2-methylthiopyrimidine**, 6-amino- (JOHNSON and JOHNS), 1905, A., i, 836.
- 3-Methoxymethyl-*p*-toluic acid** (GUILLAUMIN), 1910, A., i, 375.
- $\beta$ -Methoxymethylisovaleric acid** and its ethyl ester and silver salt, synthesis of (SIMONSEN), 1908, T., 1788.
- Methoxynaphthacenequinone**, *tri*hydroxy- (BENTLEY, FRIEDL, and WEIZMANN), 1907, T., 1592; P., 215.
- 5-Methoxynaphthacenequinone**, 1-hydroxy- (BENTLEY, FRIEDL, THOMAS, and WEIZMANN), 1907, T., 425.
- 8(or 9)-Methoxynaphthacenequinone**, 1-hydroxy- (BENTLEY, FRIEDL, THOMAS, and WEIZMANN), 1907, T., 423.
- 2-Methoxynaphthacinchonic acid** (CIUSA), 1907, A., i, 853.
- Methoxy- $\alpha$ -naphthafavonols**, 3'- and 4'-, and their sodium salts and acetates (V. KOSTANECKI), 1908, A., i, 359.
- Methoxy- $\alpha$ -naphthafavanones**, 3'- and 4'-, and their isonitroso-derivatives (V. KOSTANECKI), 1908, A., i, 359.
- $\alpha$ -Methoxynaphthafuorenone** (ÜLLMANN and DENZLER), 1907, A., i, 143.

- Methoxynaphthaldazine** (PASCAL and NORMAND), 1912, A., i, 147.
- 1-Methoxy-2-naphthaldehyde** (FRIEDLÄNDER), 1908, A., i, 373; (BEZDZIK and FRIEDLÄNDER), 1909, A., i, 416.
- 4-Methoxy-2-naphthaldehyde**, 1-hydroxy- (FRIEDLÄNDER), 1908, A., i, 373; (BEZDZIK and FRIEDLÄNDER), 1909, A., i, 416.
- 5-Methoxy-2-naphthaldehyde**, 1-hydroxy- (BEZDZIK and FRIEDLÄNDER), 1909, A., i, 417.
- Methoxy-1-naphthaldehydes**, 2- and 4-, and their azines, synthesis of (GATTERMANN), 1908, A., i, 33.
- Methoxynaphthalene**. See Naphthyl methyl ether.
- 1-Methoxynaphthalene-4-sulphonic acid**, sodium salt (VOROSCHTSCOFF), 1911, A., i, 341; 1912, A., i, 145.
- 2-Methoxy-1:4-naphthaquinone**, and its oxime, semicarbazone, and 4-methylnitromethide (SACHS, BERTHOLD, and ZAAR), 1907, A., i, 427.
- 2-Methoxynaphthaxanthone** (ULLMANN and KIPFER), 1905, A., i, 597.
- Methoxyperinaphth-hydrindone** (BARGER and STARLING), 1911, T., 2030; P., 259.
- 2-Methoxy- $\alpha$ -naphthoic acid** (BODROUX), 1903, A., i, 420; 1904, A., i, 167.
- $\alpha$ - and  $\beta$ -**Methoxynaphthoic acids**, menthyl esters of (COHEN and DUDLEY), 1910, T., 1747.
- $\beta$ -**Methoxy- $\alpha$ - and - $\beta$ -naphthoic acids**, methylesters (WERNER and SEYBOLD), 1904, A., i, 1013.
- 4-Methoxy- $\alpha$ -naphthol** (BADISCHE ANILIN- & SODA-FABRIK), 1906, A., i, 951.
- 1-Methoxy- $\beta$ -naphthol** (BEZDZIK and FRIEDLÄNDER), 1909, A., i, 416.
- 3-Methoxy- $\beta$ -naphthol** and its acetyl derivative (BAEZNER, GARDIOL, and GUEORGUEFF), 1906, A., i, 700.
- 1-Methoxy-2- $\beta$ -naphthoylbenzoic acid** and 6-nitro-, methyl esters (ORCHARDSON and WEIZMANN), 1906, T., 120.
- 3(or 6)-Methoxy-2- $\beta$ -naphthoylbenzoic acid**, 1'-hydroxy- (BENTLEY, FRIEDL, THOMAS, and WEIZMANN), 1907, T., 420.
- $\beta$ -2-Methoxynaphthylacrylic acid** (BARGER and STARLING), 1911, T., 2032; P., 258.
- 2-Methoxy-1-naphthylcarbonyl-amine**, and -chloroacetamide (EINHORN), 1908, A., i, 613.
- 2-Methoxy-4-naphthylcyanoacetic acid**, 1-hydroxy-, methyl ester, and its eurhodole and semicarbazone (SACHS, BERTHOLD, and ZAAR), 1907, A., i, 427.
- 1-*o*- and -*p*-Methoxy-2-naphthyl ethyl ethers** and their hydrochlorides (CHARRIER and FERRERI), 1912, A., i, 813.
- 2-Methoxy- $\alpha$ -naphthylideneacetyl-acetone** (HELBRONNER), 1903, A., i, 764.
- $\beta$ -Methoxynaphthylidenebisphenyl-methylpyrazolone** (MUNDICI), 1909, A., i, 720.
- $\beta$ -Methoxynaphthylidenephenylmethylpyrazolone** (MUNDICI), 1909, A., i, 720.
- $\beta$ -2-Methoxynaphthylpropionic acid** (BARGER and STARLING), 1911, T., 2030; P., 258.
- 6-Methoxynicotinic acid**, methyl ester (MEYER), 1906, A., i, 108.
- $\alpha$ -Methoxy- $\alpha$ -nitromethylphthalide** (GABRIEL), 1903, A., i, 345.
- 3-Methoxyisooxazole-5-propionic acid** and its methyl ester and nitro-derivative (THIELE and LANDERS), 1909, A., i, 876.
- 1-Methoxyoxindole** (REISSERT), 1909, A., i, 52.
- $\alpha$ -Methoxypentan- $\delta$ -ol**, *eee-trichloro-* (HAMONET), 1906, A., i, 133.
- $\alpha$ -Methoxypentan- $\beta$ -one** (GAUTHIER), 1909, A., i, 354.
- $\beta$ -Methoxypentan- $\gamma$ -one** (GAUTHIER), 1909, A., i, 354.
- Methoxycyclopentenedione**, *tribromo-* (JACKSON and FLINT), 1910, A., i, 178.
- p*-Methoxyphenacyldialuric acid** and its acetyl and benzoyl derivatives (KÜHLING and SCHNEIDER), 1909, A., i, 424.
- p*-Methoxyphenacylisohydantoic acid** (KÜHLING and SCHNEIDER), 1909, A., i, 424.
- 4-Methoxyphenacyl-lævulic acid** and 2-hydroxy- (COURANT and v. KOSTANECKI), 1907, A., i, 75.
- p*-Methoxyphenacyltartronic acid** and its lead salt (KÜHLING and SCHNEIDER), 1909, A., i, 424.
- 3-Methoxyphenanthrene**, *amino-4-hydroxy-*, triacetyl derivative of, and its oxidation (VONGERICHTEN and WEILINGER), 1905, A., i, 542.
- 4-hydroxy- (methylmorphol) and its -9-carboxylic acid** (PSCHORR and VOGTHER), 1903, A., i, 183.

- 3-Methoxyphenanthrene**, 4-hydroxy- (*methylmorphol*), synthetic base from, and its behaviour towards reagents which decompose methylmorphimethine (KNORR), 1905, A., i, 813.
- o*-Methoxyphenol**. See Guaiacol.
- 5-Methoxyphenol**. See Resorcinol, 1-methyl ether.
- 5-Methoxyphenol**, 3-hydroxy-. See Phloroglucinol, 1-methyl ether.
- 1-Methoxy-1:2-phenonaphthacridine**, 10-amino- (BAEZNER, GARDIOL, and GUEORGUIEFF), 1906, A., i, 700.
- o*-3-Methoxyphenoxybenzoic acid** (V. BAeyer, AICKELIN, DIEHL, HALLENSLEBEN, and HESS), 1910, A., i, 250.
- m*-Methoxy- $\beta$ -phenoxycinnamic acid** and its ethyl ester (RUHEMANN), 1903, T., 1134; P., 202.
- m*-Methoxyphenoxyfumaric acid**, ethyl ester (RUHEMANN), 1903, T., 1132; P., 202.
- $\beta$ -*m*-Methoxyphenoxypropionic acid** (TSCHITSCHIBABIN and NIKITIN), 1911, A., i, 1007; (PERKIN and ROBINSON), 1912, P., 7.
- m*-Methoxyphenoxystyrene** (RUHEMANN), 1903, T., 1134; P., 202.
- Methoxyphenyl ethyl carbonate**, *o*-amino-, and its acetyl derivative and carbamide, and *o*-nitro- (A. and L. LUMIERE and PERRIN), 1905, A., i, 588.
- sulphide, nitro- (BLANKSMA), 1904, A., i, 577.
- o*-Methoxyphenyl hydrogen sulphate** (A. and L. LUMIERE and PERRIN), 1904, A., i, 157.
- p*-Methoxyphenyl benzyl sulphide** (TABOURY), 1905, A., i, 644.
- p*-Methoxyphenylacetaldehyde** and its semicarbazone (TIFFENEAU), 1907, A., i, 405.
- $\alpha$ -*p*-Methoxyphenylacetamide**,  $\alpha$ -amino-, and its derivatives (CLARKE and FRANCIS), 1911, T., 323.
- 2-Methoxyphenylacetic acid**, 5-bromo-, and its sodium salt (KNORR and HÖRLEIN), 1909, A., i, 919.
- 3-Methoxyphenylacetic acid** (PSCHORR, DICKHÄUSER, and ZEIDER), 1912, A., i, 766.
- 3-Methoxyphenylacetic acid**, 6-bromo- (PSCHORR and KOCH), 1912, A., i, 767.
- 3-Methoxyphenylacetic acid**, 6-bromo-4-hydroxy-, and its derivatives and 4-hydroxy-, ethyl ester (PSCHORR, SELLE, KOCH, STOOFF, and TREIDEL), 1910, A., i, 776.
- p*-Methoxyphenylacetoneitrile**,  $\alpha$ -amino-, and its hydrochloride (ALOY and RABAUT), 1910, A., i, 558.
- $\omega$ -Methoxyphenylacetyl chloride** (STAUDINGER and KUPFER), 1911, A., i, 641.
- p*-Methoxyphenylacetylene** (KUNCKELL and ERAS), 1903, A., i, 413.
- m*-Methoxyphenylacetyl glycollic acid**, *p*-hydroxy-, ethyl ester (GUYOT and GRY), 1910, A., i, 41.
- 5-*p*-Methoxyphenylacridine**, 3-nitro- (ULLMANN and ERNST), 1906, A., i, 206.
- 9-Methoxy-5-phenylacridine**, 3-nitro- (ULLMANN and ERNST), 1906, A., i, 206.
- $\beta$ -Methoxy- $\beta$ -phenylacrylic acid**,  $\alpha$ -cyano-, methyl ester (SCHMITT), 1903, A., i, 399.
- p*-Methoxyphenyl *p*-aldehydostyryl ketone** and its phenylhydrazone (V. LENDENFELD), 1907, A., i, 222.
- $\gamma$ -*o*-Methoxyphenylaminoacetoacetic acid**, ethyl ester (BENARY), 1908, A., i, 601.
- p*-Methoxyphenyl-aminoacetone**, hydrochloride and picrate of, and -nitroacetone (RIMINI), 1905, A., i, 198.
- p*-Methoxyphenylaminocamphor** (FORSTER and THORNLEY), 1909, T., 952.
- $\alpha$ -*o*-Methoxyphenyl-2-amino- and -2-nitro-3:4-dimethoxycinnamic acids** (PSCHORR and BUSCH), 1907, A., i, 636.
- p*-Methoxyphenyl-2-amino- and -2-nitro-3:4-dimethoxycinnamic acids** and their salts (PSCHORR, SEYDEL, and STÖHRER), 1903, A., i, 167.
- p*-Methoxyphenyl-2-amino-3-hydroxy-4-methoxycinnamic acid** (PSCHORR, SEYDEL, and STÖHRER), 1903, A., i, 167.
- $\eta$ -Methoxy- $\alpha$ -phenyl- $\eta$ -*p*-anisyl- $\Delta^{\alpha\gamma}$ -heptadien- $\epsilon$ -one**,  $\zeta$ -bromo-, and  $\gamma\zeta$ -*di*-bromo- (BAUER and DIETERLE), 1911, A., i, 881.
- $\eta$ -Methoxy- $\alpha$ -phenyl- $\eta$ -anisyl- $\Delta^{\alpha\gamma}$ -heptadien- $\epsilon$ -onephenylhydrazone**,  $\zeta$ -bromo-, and  $\gamma\delta\zeta$ -tribromo- (BAUER and DIETERLE), 1911, A., i, 921.
- $\eta$ -Methoxy- $\alpha$ -phenyl- $\eta$ -*p*-anisyl- $\Delta^{\alpha}$ -hepten- $\epsilon$ -one**,  $\gamma\delta\zeta$ -tribromo- (BAUER and DIETERLE), 1911, A., i, 882.
- Methoxyphenylanthranilic acids**. See Methoxydiphenylamine-2-carboxylic acids.
- 4-Methoxy-2-phenylbenzopyranol(1:4)** salts (PERKIN, ROBINSON, and TURNER), 1908, T., 1111.



- 2-*p*-Methoxyphenyl-1:3-benzoxazone and its acetyl derivative (KEANE and NICHOLLS), 1907, T., 268; P., 36.
- m*-Methoxyphenylbenzoylglycollic acid, *p*-hydroxy-, ethyl ester (GUYOT and GRV), 1910, A., i, 41.
- o*-Methoxyphenylbenzylmethylallyl-ammonium salts (WEDEKIND and FRÖHLICH), 1907, A., i, 410.
- iodide (WEDEKIND and FRÖHLICH), 1906, A., i, 162.
- p*-Methoxyphenylbenzylmethylallyl-ammonium salts (FRÖHLICH and WEDEKIND), 1907, A., i, 411.
- p*-Methoxyphenylcamphoric acid (PIUTTI, LEONE, and D'EMILIO), 1910, A., i, 675.
- p*-Methoxyphenylcamphorimide (PIUTTI, LEONE, and D'EMILIO), 1910, A., i, 675.
- o*-Methoxyphenylcarbamic acid, ethyl ester (PSCHORR and EINBECK), 1905, A., i, 590.
- o*-Methoxyphenylcarbithionic acid. See *o*-Methoxybenzoic acid, *dithio*-.
- p*-Methoxyphenylcarbithionic acid. See Anisic acid, *dithio*-.
- p*-Methoxyphenylchloroacetylene (KUNCKELL and ERAS), 1903, A., i, 413.
- p*-Methoxyphenyltrichloromethylcarbinol and its acetate (DINESMANN), 1905, A., i, 645.
- o*-Methoxyphenylcitraconamic acid (PIUTTI and ALLEGRI), 1910, A., i, 674.
- p*-Methoxyphenylcitraconamic acid (PIUTTI, PAGNIELLO, and MARCIANO), 1910, A., i, 672.
- o*-Methoxyphenylcitraconimide (PIUTTI and ALLEGRI), 1910, A., i, 675.
- p*-Methoxyphenylcitraconimide (PIUTTI, PAGNIELLO and MARCIANO), 1910, A., i, 672.
- $\alpha$ -*p*-Methoxyphenylcoumaric acid (STOERMER and FRIEMEL), 1911, A., i, 633.
- 5-Methoxy-2-phenylcoumarilic acid (MOTYLEWSKI) 1909, A., i, 822.
- 4'-Methoxy- $\beta$ -phenylcoumarin, 4-hydroxy- and its acetyl derivative (BARGELLINI and LEONARDI), 1911, A., i, 902.
- 5-Methoxy-2-phenylcoumarone (MOTYLEWSKI), 1909, A., i, 822.
- o*-Methoxyphenyldiazoaminobenzene (VIGNON and SIMONET), 1904, A., i, 1065.
- $\alpha$ -*p*-Methoxyphenyl-3-diazo-2-oxy-4-methoxycinnamic acid (PSCHORR, SEYDEL, and STÖHRER), 1903, A., i, 168.
- 7-*p*-Methoxyphenyldihydro- $\alpha\beta$ -phenanthracridine, 10-hydroxy-, and its acetyl derivative (POPE and HOWARD), 1910, T., 976; P., 88.
- p*-Methoxyphenyl- $\Delta^{1,3}$ - and  $\Delta^{2,5}$ -dihydrophthalimides (ABATI and CONTALDI), 1906, A., i, 959.
- 4-*m*-Methoxyphenyldihydro-6-pyridone, 3:5-dicyano-2-*p*-dihydroxy-, ammonium salt (PICCININI), 1904, A., i, 919.
- 3-*p*-Methoxyphenyl-7:8-dimethoxy-2-carbostyryl (PSCHORR, SEYDEL, and STÖHRER), 1903, A., i, 167.
- p*-Methoxyphenyl dimethylamino-methyl ketone and its hydriodide (VOSWINCKEL), 1912, A., i, 443.
- m*-Methoxyphenyldimethylcarbinol (BÉHAL and TIFFENEAU), 1904, A., i, 742.
- $\alpha$ -Methoxyphenyl- $\delta\delta$ -dimethylfulgenic acids, *o*- and *p*-, and their fulgides (STOBBE and LENZNER), 1906, A., i, 278.
- 4-*p*-Methoxyphenyl-1:1-dimethylcyclohexane-2:6-dione-3:5-dicarboxylic acid, ethyl ester (DIECKMANN and KRON), 1908, A., i, 389.
- 7-*p*-Methoxyphenyl- $\begin{array}{c} \alpha-N-\alpha \\ | \\ \beta-CH-\beta \end{array}$ -dinaphthacridine and its additive salts (SENIER and AUSTIN), 1907, T., 1237; P., 186.
- p*-Methoxyphenyldinaphthaquinoxanth-enol chloride, hydrochloride (GOMBERG and CONE), 1910, A., i, 57.
- p*-Methoxyphenyldinaphthaxanthenol, salts of (GOMBERG and CONE), 1910, A., i, 57.
- $\alpha$ -Methoxy- $\alpha$ -phenylethane, nitro- and bromonitro-derivatives of (THIELE and HAECKEL), 1903, A., i, 160.
- $\beta$ -nitro- (MEISENHEIMER and HEIM), 1905, A., i, 269.
- p*-Methoxy- $\alpha$ -phenylethane, and  $\alpha\beta$ -di-bromo- and  $\alpha$ -chloro- $\beta$ -bromo- (TUTTIN, CATON, and HANN), 1909, T., 2124.
- $\beta$ -3:5-trinitro- $\alpha$ -hydroxy- (REMFY), 1911, T., 285; P., 21.
- $\beta$  Methoxy- $\beta$ -phenylethane,  $\alpha$ -nitro- (ROSENMUND), 1912, A., i, 449.
- p*-Methoxyphenylethyl acetate (TIFFENEAU), 1907, A., i, 406.
- p*-Methoxyphenylethyl alcohol (AKTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION), 1911, A., i, 857.
- and its phenylurethane (GRIGNARD), 1905, A., i, 594.

- m*-Methoxyphenylethylamine,  $\alpha$ -*p*-hydroxy-, and its hydrochloride and benzoyl derivatives (MOORE), 1911, T., 418; P., 42.
- $\alpha$ -*p*-Methoxyphenylethylamine ( $\alpha$ -anisylethylamine) and its derivatives (BETTI and DEL RIO), 1912, A., i, 347.
- and its salts (BUSCH and LEEFHELM), 1908, A., i, 153.
- and its carbonate (ROSENMUND), 1910, A., i, 106.
- and its hydrochloride (ROSENMUND), 1910, A., i, 241.
- $\beta$ -*p*-Methoxyphenylethylamine and its hydrochloride (BARGER and WALPOLE), 1909, T., 1724; P., 229.
- $\beta$ -Methoxy- $\beta$ -phenylethylamine and  $\beta$ -hydroxy-, and their hydrochlorides (ROSENMUND), 1912, A., i, 449.
- 2-Methoxy-5-phenyl-5-ethylbarbituric acid (FARBENFABRIKEN VORM. F. BAYER & Co.), 1912, A., i, 1025.
- 5-*p*-Methoxyphenyl-5-ethylbarbituric acid (FARBENFABRIKEN VORM. F. BAYER & Co.), 1912, A., i, 1025.
- p*-Methoxyphenylethylcarbinol and its ether (HELL and HOFMANN), 1905, A., i, 58; (KLAGES), 1905, A., i, 344, 645; (HELL), 1905, A., i, 436.
- Methoxyphenylethylcarbinols, *o*- and *p*- (HELL and HOFMANN), 1905, A., i, 435.
- 9-*p*-Methoxyphenylfluorene and its 9-carboxylic acid (BISTRZYCKI and v. WEBER), 1910, A., i, 743.
- 3-Methoxy-9-phenylfluorene and its chloride and platinichloride (KEHRMANN, DENGELER, and SCHEUNERT), 1909, A., i, 249.
- p*-Methoxyphenylfumaric diamide (PIUTTI), 1910, A., i, 23.
- 3-Methoxyphenylglycine-2-carboxylamide (FRIEDLÄNDER, BRÜCKNER, and DEUTSCH), 1912, A., i, 319.
- 5-Methoxyphenylglycine-2-carboxylic acid (FRIEDLÄNDER, BRÜCKNER, and DEUTSCH), 1912, A., i, 319.
- o*-Methoxyphenylglyciny ethyl urethane (FRERICHS and BREUSTEDT), 1903, A., i, 18.
- p*-Methoxyphenylglyoxylamide (MAUTHNER), 1909, A., i, 161.
- $\gamma$ -*p*-Methoxyphenylhexanone and its oxime (KÖHLER), 1907, A., i, 1052.
- p*-Methoxyphenyl- $\gamma$ -cyclohexylcarbinol and its chloride (SCHMIDLIN and v. ESCHER), 1912, A., i, 437.
- 3-*p*-Methoxyphenylhydantoin (FRERICHS and BREUSTEDT), 1903, A., i, 18.
- 4-*p*-Methoxyphenylhydantoin (CLARKE and FRANCIS), 1911, T., 324.
- 4-*p*-Methoxyphenylhydantoin, 5-thio- (JOHNSON and CHERNOFF), 1912, A., i, 811.
- 1-*p*-Methoxyphenylhydrocotarnine (FREUND and REITZ), 1906, A., i, 601.
- $\alpha$ -Methoxyphenylhydrocoumaric acid (STOERMER and FRIEMEL), 1911, A., ii, 632.
- 4-Methoxyphenyl 2-hydroxystyryl ketone (2-hydroxy-4'-methoxychalcone) and its derivatives (ZWAYER and v. KOSTANECKI), 1908, A., i, 444.
- $\alpha$ -*o*-Methoxyphenyl-*o*-hydroxy-*p* tolylacetic acid, lactone of (STOERMER and FRIEMEL), 1912, A., i, 46; (STOCKMANN), 1912, A., i, 862.
- $\beta$ -*o*-Methoxyphenyl- $\alpha$ - $\beta$ -*di-p*-hydroxy-*o*-tolylpropionic acid and its derivatives (STOERMER and FRIEMEL), 1912, A., i, 45.
- p*-Methoxyphenyliminocamphor (FORSTER and THORNLEY), 1909, T., 952.
- o*-Methoxyphenylitaconamic acid (PIUTTI and ALLEGRI), 1910, A., i, 674.
- p*-Methoxyphenylitaconamic acids and their silver salts (PIUTTI, FOA, and ROSSI), 1910, A., i, 673.
- p*-Methoxyphenylitacondiamide (PIUTTI, FOA, and ROSSI), 1910, A., i, 674.
- o*-Methoxyphenylitaconimide (PIUTTI and ALLEGRI), 1910, A., i, 675.
- p*-Methoxyphenylitaconimide (PIUTTI, FOA, and ROSSI), 1910, A., i, 673.
- o*-Methoxyphenylmaleinamic acid (PIUTTI and ALLEGRI), 1910, A., i, 675.
- p*-Methoxyphenylmaleinamic acid (PIUTTI), 1910, A., i, 23.
- p*- and *s-p*-Methoxyphenylmaleimide (PIUTTI), 1910, A., i, 23.
- Methoxyphenyl-*m*-meconine, hydroxy- (PERKIN and ROBINSON), 1907, P., 292.
- p*-Methoxyphenylmesacondiamide (PIUTTI, PAGNIELLO, and MARCIANO), 1910, A., i, 673.
- p*-Methoxyphenyl-*p*-methoxystyryl-*di*-chloromethane, and its salts and derivatives (STRAUS, KRIER, and LUTZ), 1910, A., i, 567.
- o*-Methoxyphenylmethylcarbinol (PSCHORR and EINBECK), 1905, A., i, 590.
- 3-Methoxyphenylmethylcarbinol, 4-hydroxy-. See Apocynol.

- 2-*o*-Methoxyphenyl-5-methylcoumaran (STOERMER and FRIEMEL), 1912, A., i, 46.
- 2-*o*-Methoxyphenyl-5-methylcoumaran-1-carboxylic acid and its derivatives (STOERMER and FRIEMEL), 1912, A., i, 45.
- 4-*o*-Methoxyphenyl-7-methylcoumarin (STOERMER and FRIEMEL), 1912, A., i, 45.
- 2-*o*-Methoxyphenyl-5-methylcoumarone (STOERMER and FRIEMEL), 1912, A., i, 46.
- 5-*p*-Methoxyphenyl-3-methyldihydro-acridine, 8-hydroxy-, and its acetyl derivative (POPE and HOWARD), 1910, T., 975.
- 10-Methoxy-7-phenyl-9-methyl-7:12-dihydropheno- $\alpha\beta$ -naphthacridine (ULLMANN and FITZENKAM), 1906, A., i, 45.
- p*-Methoxyphenyl methyl diketone, and its *amphi*-dioxime (BORSCHKE), 1907, A., i, 327.
- $\beta$ -*p*-Methoxyphenyl- $\beta$ -4-methylcyclohexan-2-onylpropionophenones (CRUIKSHANKS), 1912, A., i, 785.
- 5-*m*-Methoxyphenyl-3-methyl- $\Delta^2$ -cyclohexenone 4:6-dicarboxylic acid, *p*-hydroxy-, ethyl ester (KNOEVENAGEL and ALBERT), 1905, A., i, 63.
- 4-*o*-Methoxyphenyl-7-methylhydrocoumarin, 3-bromo- (STOERMER and FRIEMEL), 1912, A., i, 45.
- 10-Methoxy-7-phenyl-9-methylpheno- $\alpha\beta$ -naphthacridine and its additive salts (ULLMANN and FITZENKAM), 1906, A., i, 45.
- 3-Methoxy-1-phenyl 5-methylpyrazole ( $\psi$ -3-*antipyrine*) (MICHAELIS and MEYER), 1905, A., i, 378.
- 4-Methoxy-3-phenyl-6-methylquinoline. See 3-Phenyl-6-methylkynurine, *O*-methyl ether.
- 4'-Methoxy-9-phenyl-2-methylxanthen, 6-hydroxy-, and its acetyl derivative (POPE and HOWARD), 1910, T., 974.
- p*-Methoxyphenyl- $\beta$ -naphthacinchonic acid, *o*- and *m*-hydroxy- (PAULY, v. BUTTLAR, and LOCKERMANN), 1911, A., i, 787.
- 11-*p*-Methoxyphenyl- $\beta$ -naphthaxanthen, 8-hydroxy-, and its acetyl derivative (POPE and HOWARD), 1910, T., 975.
- $\alpha$ -*o*- and -*p*-Methoxyphenylnaphthylamine (KNOLL & Co.), 1912, A., i, 345.
- $\beta$ -*p*-Methoxyphenyl- $\beta$ - $\alpha$ -naphthylpropionic acid and its salts and toluidide (FOSSE), 1906, A., i, 975; 1907, A., i, 136.
- p*-Methoxyphenyl-2-nitro-3-acetoxy-4-methoxycinnamic acid (PSCHORR, SEYDEL, and STÖHRER), 1903, A., i, 167.
- 4'-Methoxyphenyl-4:6-dinitro-*m*-tolylamine (REYERDIN, DRESEL, and DELÉTRA), 1904, A., i, 580.
- 2-Methoxy-3-phenylisooxazolidone (POSNER), 1906, A., i, 955.
- o*- and *m*-Methoxyphenylisooxazolone (WAHL), 1909, A., i, 262.
- 2-*p*-Methoxyphenylperimidine and its hydrochloride (SACHS and STEINER), 1909, A., i, 970.
- 4-*p*-Methoxyphenyl-6-phenyl-2-methylpyridine, 3-cyano- (v. MEYER and IRMSCHER), 1908, A., i, 911.
- 3-Methoxyphenyl-1-phenylisooxazole (WATSON), 1904, T., 1326; P., 181.
- 5-Methoxyphenyl-3-phenylpyrazole (MOUREU and BRACHIN), 1903, A., i, 581.
- o*-Methoxyphenylphthalamic acid (PIUTTI and ALLEGRI), 1910, A., i, 674.
- p*-Methoxyphenyl-phthalamic acid, -phthalimide, -hydrophthalamic acid, and -hydrophthalimide (PIUTTI and ABATI), 1903, A., i, 424.
- p*-Methoxyphenylisophthaldiamide (PIUTTI, PUGLIESE, and SELVAGGI), 1910, A., i, 675.
- 4-Methoxyphenylphthalide, 2-hydroxy- (PERKIN and ROBINSON), 1908, T., 511.
- o*-Methoxyphenylphthalimide (PIUTTI and ALLEGRI), 1910, A., i, 675.
- $\beta$ -*p*-Methoxyphenylpropaldehyde and its dimeric form, preparation of (BALBIANO), 1908, A., i, 901.
- and its semicarbazone (BALBIANO and PAOLINI), 1906, A., i, 186.
- $\beta$ -Methoxy- $\alpha$ -phenylpropane,  $\alpha$ -hydroxy- (MAMELI and BROCCA), 1909, A., i, 715.
- $\gamma$ -*p*-Methoxyphenylpropane- $\alpha\beta$ -diol (DAUFRESNE), 1908, A., i, 19.
- $\gamma$ -*p*-Methoxyphenylpropane- $\alpha\gamma$ -diol (*anthoglycol*) and its acetates (VARENNE and GODEFROY), 1905, A., i, 282.
- $\gamma$ -*p*-Methoxyphenylpropane- $\beta\gamma$ -diols ( $\gamma$ -*p*-methoxyphenyl- $\beta\gamma$ -propylene glycols), stereoisomeric (BALBIANO, DE CONNO, and PAOLINI), 1907, A., i, 522.
- p*-Methoxyphenylpropionamide (BARGER and WALPOLE), 1909, T., 1724; P., 229; (FARBENFABRIKEN VORM. F. BAYER & Co.), 1911, A., i, 629.
- p*-Methoxy- $\beta$ -phenylpropionhydroxam-oxime hydrate,  $\beta$ -hydroxylamino- (POSNER), 1912, A., i, 455.



- p*-Methoxy- $\alpha$ -phenylpropionic acid,  $\alpha$ -hydroxy- (*p*-methoxyatrolactic acid), and atrolactic acid, comparative study of the dehydration of (BOUGAULT), 1908, A., i, 340.
- $\beta$* -2-Methoxyphenylpropionic acid**, methyl ester and hydrazide (PSCHORR and EINBECK), 1905, A., i, 590.
- $\beta$* -2-Methoxyphenylpropionic acid**,  $\alpha\beta$ -dibromo-5-nitro-, methyl ester (CLAYTON), 1910, T., 2110.
- $\beta$* -3-Methoxyphenylpropionic acid**, 5-hydroxy-, and its amide (SALWAY), 1910, T., 2417.
- 4:6-dihydroxy-, and its lactone (MOORE), 1911, T., 1047; P., 119.
- $\beta$* -4-Methoxyphenylpropionic acid**,  $\alpha$ -amino-*m*-bromo- (JOHNSON and BENGIS), 1912, A., i, 809.
- $\alpha$ -bromo- (FRIEDMANN and GUTMANN), 1910, A., i, 741.
- $\beta$* -Methoxy- $\beta$ -phenylpropionic acid**, and its methyl ester (SCHRAUTH, SCHOELLER, and STRUENSEE), 1911, A., i, 641.
- o*-, *m*-, and *p*-Methoxy- $\beta$ -phenylpropionic acids,  $\beta$ -amino- (POSNER), 1912, A., i, 455.
- p*-Methoxyphenylpropionyl chloride (BARGER and WALPOLE), 1909, T., 1724.
- 3-Methoxyphenyl-*n*-propyl alcohol**,  $\alpha$ -2-hydroxy- (DOUETTEAU), 1912, A., i, 620.
- $\beta$* -*p*-Methoxyphenylpropyl alcohol**,  $\gamma$ -chloro- (RIEDEL), 1907, A., i, 920.
- p*-Methoxyphenylisopropylamine, and its hydrochloride (MANNICH and JACOBSON), 1910, A., i, 167; (ROSENMUND, MANNICH, and JACOBSON), 1912, A., i, 443.
- 4-Methoxyphenyl 4-isopropylstyryl ketone**, 2-hydroxy- (v. KOSTANECKI and TOBLER), 1907, A., i, 952.
- p*-Methoxyphenylisopropyltrimethylammonium iodide (ROSENMUND), 1911, A., i, 34.
- p*-Methoxyphenylpyrocinchonamic acid, *p*-anisidine salt of (PIUTTI and ABATI), 1910, A., i, 674.
- 4-Methoxyphenylpyrocinchonimide** (PIUTTI and ABATI), 1910, A., i, 674.
- 3-Methoxyphenylpyruvic acid**, 6-bromo- (PSCHORR and KOCH), 1912, A., i, 766.
- 4-Methoxyphenylpyruvic acid** (WAKEMAN and DAKIN), 1911, A., ii, 417.
- and its phenylhydrazine and condensation with benzaldehyde (ERLENMEYER and WITTENBERG), 1905, A., i, 240.
- 3-*o*-Methoxyphenylquinoxaline**, 2-acetyl derivative, and its phenylhydrazine (SACHS and HEROLD), 1907, A., i, 629.
- N*-*o*- and -*p*-Methoxyphenylrhodanines (HOLMBERG), 1910, A., i, 361.
- o*-Methoxyphenylserine and its salts (ERLENMEYER and BADE), 1905, A., i, 131.
- m*-Methoxyphenyltartronic acid, *p*-hydroxy-, methyl and ethyl esters (GUYOT and GRAY), 1910, A., i, 41.
- p*-Methoxyphenyltartronic acid, methyl ester (GUYOT and ESTÉVA), 1909, A., i, 306.
- p*-Methoxyphenylterephthaldiamide (PIUTTI, PUGLIESE and SELVAGGI), 1910, A., i, 676.
- o*-Methoxyphenyl-dithiobiuret and -thiouret hydriodide and hydrochloride (FROMM and SCHNEIDER), 1906, A., i, 657.
- 5-Methoxy-3-phenyl-1:3:4-thiadiazole-2-anil** (BUSCH and LIMPACH), 1911, A., i, 334.
- 6-Methoxyphenylthioglycol-*o*-carboxylic acid** (KALLE & Co.), 1911, A., i, 666.
- 5-Methoxy-1-phenyl-1:2:3-triazole-4-carboxylic acid**, *p*-bromo-, ethyl ester (DIMROTH and STAHL), 1905, A., i, 386.
- p*-Methoxyphenyl-2:4:5-trimethoxyphenylcarbinol (SZÉKI), 1909, A., i, 919.
- p*-Methoxyphenylvalerophenone and its oxime (KÖHLER), 1907, A., i, 1053.
- 4'-Methoxy-9-phenylxanthen**, 3:6-dihydroxy-, and its diacetyl derivative (POPE and HOWARD), 1910, T., 974.
- 3-Methoxy-9-phenyl-xanthen-9-ol** and -xanthonium salts and **2-Methoxy-9-phenylxanthonium** ferrichloride (DECKER, v. FELENBERG, and DINER), 1907, A., i, 1065.
- 2-, 3-, and 4-Methoxy-9-phenylxanthen-9-ols** (v. BAEYER, AICKELIN, DIEHL, HALLENSLEBEN, and HESS), 1910, A., i, 251.
- 6-Methoxy-9-phenylxanthonium**, 3-amino-, and its acetyl derivative, salts of (KEHRMANN and DENGLER), 1910, A., i, 407.
- Methoxyphenyl-**. See also Anisyl-.
- 3-Methoxyphthalanilic acid** (BENTLEY, ROBINSON, and WEIZMANN), 1907, T., 110.
- 4-Methoxyphthalanilic acid** (BENTLEY and WEIZMANN), 1907, T., 104.
- 3-Methoxyphthalic acid** and its derivatives (ROBINSON), 1906, P., 323; (BENTLEY, ROBINSON, and WEIZMANN), 1907, T., 110.

- 4-Methoxyphthalic acid** and its methyl ester, anhydride, anil, and imide (BENTLEY and WEIZMANN), 1906, P., 323; 1907, T., 102.  
the fluoresceins and eosins from (FRIEDL, WEIZMANN, and WYLER), 1907, T., 1584; P., 214.
- 4-Methoxyisophthalic acid**, 6-nitro-, and its esters (MALTESE), 1907, A., i, 912.
- 4-Methoxyphthalic anhydride**, action of magnesium organic compounds on (BAUER), 1911, A., i, 871.
- 3-Methoxyphthalonic acid** and its anhydrophenylhydrazine (BENTLEY, ROBINSON, and WEIZMANN), 1907, T., 109.
- 6-Methoxy-*m*-phthalophenone**, 2:4-*di*-hydroxy-, and its dibenzoyl derivative (PERKIN and ROBINSON), 1906, P., 306.
- $\alpha$ -Methoxypiperonylpropionic acid**,  $\beta$ -bromo-, and its esters (HOERING), 1907, A., i, 624.
- Methoxypropenylbenzene**, bromo-derivatives of (HELL and BAUER), 1903, A., i, 479.
- 1-Methoxypropionic acid**, methyl ester, reduction of, by hydriodic acid (IRVINE), 1906, T., 938; P., 159.
- $\alpha$ -Methoxypropionic acid**, amide and nitrile of (GAUTHIER), 1909, A., i, 354.
- $\beta$ -Methoxypropionic acid**, methyl ester (PALOMAA and KILPI), 1911, A., i, 176.
- 4-Methoxy-1-propionylbenzene**, bromo- and bromonitro-derivatives (HOERING), 1904, A., i, 577.
- 4-Methoxypropiophenone**,  $\omega$ -chloro-2-hydroxy- (PERKIN and ROBINSON), 1912, P., 8.
- 3-Methoxypropylbenzene**, bromonitro- and dinitro- (RICHTER), 1907, A., i, 523.
- 4-Methoxypropylbenzene**, 3:5: $\alpha\beta$ -pentabromo- (HOERING), 1904, A., i, 578.  
3-nitro- (THOMS and DRAUZBURG), 1911, A., i, 716.
- Methoxypropylbenzenes**, 4- and 3-, 6-nitro-3- and -4-hydroxy- (THOMS and BILTZ), 1904, A., i, 400.
- 4'-Methoxy-4-isopropylchalkone**. See 4-Methoxyphenyl 4-isopropylstyryl ketone.
- 4-Methoxy-1-propylenebenzene**, 3:5: $\beta$ -tribromo- (HOERING), 1904, A., i, 578.
- 3-Methoxy-*p*-propylenebenzol**. See *iso*-Eugenol.
- 6-Methoxy-4'-isopropylflavanone** and 3-bromo- (v. KOSTANECKI and KOLKER), 1907, A., i, 952.
- 6-Methoxy-4'-isopropylflavone** (v. KOSTANECKI and KOLKER), 1907, A., i, 952.
- 7-Methoxy-4'-isopropyl-flanonol** and its acetate and -flavanone (v. KOSTANECKI and TOBLER), 1907, A., i, 952.
- 2-Methoxy-4-propylidenequinone** and its bromo-derivatives (ZINCKE and HAHN), 1904, A., i, 41.
- 5-Methoxy-3-propylphenol** (THOMS), 1904, A., i, 47.
- $\gamma$ -Methoxypropylpiperidine** and its aurichloride (GABRIEL and COLMAN), 1906, A., i, 882.
- 6-Methoxy-2-propyl-quinol and -quinone** (THOMS), 1903, A., i, 415, 558.
- 2-Methoxypyridine**, 3:5-*dichloro*-4-hydroxy-, and its salts (SELL), 1912, T., 1948.
- Methoxypyridines**, 3- and 4-, and their additive salts (MEYER), 1906, A., i, 108.
- 5-Methoxypyridine-2-carboxylic acid**, 4-hydroxy-, methyl ester (MEYER), 1906, A., i, 109.
- 2-Methoxypyridine-5-carboxylic acid** and its methyl ester (MEYER), 1907, A., i, 344.
- 3-Methoxy-4-pyridone** (PERATONER and TAMBURELLO), 1905, A., i, 808.
- Methoxypyrimidine**, *dichloro*- (BÜTTNER), 1903, A., i, 659.
- 6-Methoxypyrimidine**, 2-amino-2:4-*dichloro*-, and 4-chloro-2-amino- (GABRIEL and COLMAN), 1904, A., i, 103.
- 3-Methoxy- $\gamma$ -pyrone** (PERATONER and SPALLINO), 1905, A., i, 806.
- 6-Methoxy-2-pyrone-3:5-dicarboxylic acid**, methyl ester (GUTHZEIT, WEISS, and SCHAEFER), 1909, A., i, 935.
- 6-Methoxyquinaldine-5-carboxylic acid**, 7-hydroxy- (BOOK), 1903, A., i, 653.
- 2- and 4-Methoxyquinazoline** (BOGERT and MAY), 1909, A., i, 329.
- 2-Methoxyquinazolinone** (McKEE), 1912, A., i, 140.
- Methoxy-*o*-quinocatechol hemiether**, *hexachloro*- (JACKSON and KELLEY), 1912, A., i, 275.
- 5-Methoxyquinol**, 3-hydroxy-, triacetate of (POLLAK and GANS), 1903, A., i, 252.
- 4-Methoxyquinoline** and its additive salts and  $\psi$ -methyl ether and its additive salts (MEYER), 1906, A., i, 604.
- 6-Methoxyquinoline**, absorption spectrum of (DOBBIE and FOX), 1911, P., 235; 1912, T., 77.  
ethiodide (DECKER and ENGLER), 1903, A., i, 518.

- 6-Methoxyquinoline**, 5-bromo-, and its methiodide (HOWITZ and BÄR-LOCHER), 1903, A., i, 279.
- 4-cyano-, methiodide (KAUFMANN, PEYER, and WIDMER), 1912, A., i, 651.
- 5-nitro-, and its salts (DECKER, ENGLER, and RUMINE), 1909, A., i, 513.
- 8-Methoxyquinoline**, 2-amino- and 2-chloro-, and their salts (FISCHER, BERCKHEMER, and ULBRICHT), 1903, A., i, 53.
- 5-amino-, and its acetyl derivative, and 5-nitro- (FREYSS and PAIRA), 1903, A., i, 198.
- bromo-derivatives, and their methiodides (HOWITZ and WITTE), 1905, A., i, 470.
- 2-thiol-, and its mercurichloride (FISCHER, BERCKHEMER, and ULBRICHT), 1903, A., i, 53.
- 2-Methoxyquinoline-3-carboxylic acid** (MEYER), 1907, A., i, 344.
- 6-Methoxy-4-quinolyl methyl ketone** (KAUFMANN, PEYER, and KUNKLER), 1912, A., i, 1018.
- 1-Methoxy-*o*-quino-1-monoxide**, octa-bromo-1'-hydroxy-, action of acetic anhydride on (JACKSON and FLINT), 1910, A., i, 121.
- 1-Methoxy-3:4-quinonediazide**, 2:5- and 2:6-dinitro-, and their azo-derivatives (MELDOLA and REVERDIN), 1910, T., 1206.
- $\alpha$ -Methoxyisosafrrole iodohydrin** (HÖERING), 1908, A., i, 896.
- p*-Methoxysalicylaldehyde**. See Anisaldehyde, *o*-hydroxy-.
- p*-Methoxysalicylideneaniline** (GOULDING and PELLY), 1911, P., 235.
- p*-Methoxysalicylidenedimethoxy- $\alpha$ -hydrindone** (PERKIN and ROBINSON), 1906, P., 161.
- 4'-Methoxy-4-stilbazole**, salts of (PROSKE), 1909, A., i, 413.
- 2-Methoxystilbene** and its  $\beta$ -carboxylic acid (FUNK and V. KOSTANECKI), 1905, A., i, 352.
- 2-Methoxystilbene**, 4'-hydroxy- (STOERMER and FRIEMEL), 1911, A., i, 632.
- 3-Methoxystilbene**, 2':4'-dinitro-4-amino-, and its acetyl derivative (KHOTINSKY and JACOBSON-JACOB-MANN), 1909, A., i, 805.
- 4-Methoxystilbene** and its dibromide (ERLENMEYER and LATTERMANN), 1904, A., i, 1017.
- preparation of (HELL), 1904, A., i, 242.
- 4-Methoxystilbene**,  $\beta$ -nitro-, reactions of (MEISENHEIMER and JOCHELSON), 1907, A., i, 860.
- p*'-nitro- (HEWITT, LEWCOCK, and POPE), 1912, T., 607.
- 2-Methoxystilbene- $\alpha$ -carboxylic acid** (CZAPLICKI, V. KOSTANECKI, and LAMPE), 1909, A., i, 235.
- 3-Methoxystilbene- $\beta$ -carboxylic acid** (FUNK and V. KOSTANECKI), 1905, A., i, 352.
- 2'-, 3', and 4'-Methoxystilbene- $\alpha$ -carboxylic acids, 2-hydroxy-, derivatives of (CZAPLICKI, V. KOSTANECKI, and LAMPE), 1909, A., i, 236.
- $\alpha$ -Methoxystyrene** (MOUREU), 1903, A., i, 699; (TIFFENEAR), 1908, A., i, 19.
- o*-Methoxystyrene** (PSCHORR and EINBECK), 1905, A., i, 590.
- p*-Methoxystyrene**, nitro-,  $\psi$ -nitrosite and nitro-oxime of (WIELAND and SEMPER), 1908, A., i, 109.
- $\beta$ -nitro- (ROSENMUND), 1910, A., i, 106.
- $\omega$ -3-dinitro- (REMFREY), 1911, T., 286; P., 21.
- 3-Methoxystyryl cinnamylidenemethyl ketone**, 4-hydroxy- (*vanillylidene-cinnamylideneacetone*) (FRANCESCONI and CUSMANO), 1908, A., i, 802.
- 5-Methoxy-2-styrylcoumarone** (ABELIN and V. KOSTANECKI), 1910, A., i, 631.
- 2-*m*-Methoxystyryl-4-dihydroquinazolone** methiodide, 2-*p*-hydroxy- (BOGERT and GEIGER), 1912, A., i, 511.
- o*-Methoxystyryl ethyl ketone** (AUWERS and VOSS), 1910, A., i, 71.
- 3-Methoxystyryl-1-hydroxynaphthyl-2-ketone**, 4-hydroxy-, and its diacetyl derivative (MILOBENDZKI, V. KOSTANECKI, and LAMPE), 1910, A., i, 628.
- 3-Methoxystyryl methyl ketone**, 4-hydroxy- (*vanillylideneacetone*), hydrochloride (FRANCESCONI and CUSMANO), 1908, A., i, 803.
- 4-Methoxystyryl methyl ketone** (*anisylideneacetone*) hydrochlorides (FRANCESCONI and CUSMANO), 1908, A., i, 803.
- $\psi$ -nitrosite and  $\alpha$ -nitro-derivatives of (WIELAND and BLOCH), 1905, A., i, 707.
- p*-Methoxystyryl nonyl ketone**, and its semicarbazone (SCHOLTZ and MEYER), 1910, A., i, 562.
- 2-*m*-Methoxystyryl-4-quinazolone**, *p*-hydroxy- (BOGERT, BELL, and AMEND), 1911, A., i, 162.



- p*-Methoxystyryl  $\beta$ -styrylvinyl ketone (anisylidenecinnamylidenacetone) and its hydrochlorides and bromides (FRANCESCONI and CUSMANO), 1908, A., i, 802.  
bromides of (BAUER and DIETERLE), 1911, A., i, 881.
- 1-Methoxysuccinamic acid (PURDIE and YOUNG), 1910, T., 1532.
- 1-Methoxysuccindiamide (PURDIE and NEAVE), 1910, T., 1519.
- 1-Methoxysuccindianilide (PURDIE and NEAVE), 1910, T., 1520.
- 1-Methoxysuccinic acid, methyl ester, action of Grignard reagents on (PURDIE and ARUP), 1910, T., 1537; P., 199.  
and its methyl hydrogen ester, and anhydride (PURDIE and YOUNG), 1910, T., 1531; P., 198.  
esters of, from malic acid (PURDIE and NEAVE), 1910, T., 1517; P., 198.
- 1-Methoxysuccinyl chloride (PURDIE and YOUNG), 1910, T., 1530.
- p*-Methoxy-*m*-sulphaminebenzoic acid and its salts (ALLEMAN), 1904, A., i, 202.
- Methoxysulphonic acid, yttrium salt (PRATT and JAMES), 1911, A., ii, 893.
- Methoxyterephthalic acids, 2- and 4- (EYKMAN), 1904, A., i, 665.
- 9-Methoxy- $\Delta^{1(6)}$ -tetrahydrocarbazole (BORSCHKE, WITTE, and BOTHE), 1908, A., i, 366.
- 2-Methoxytetrahydropyrimidine (FARBENFABRIKEN VORM. F. BAYER & Co.), 1905, A., i, 159.
- Methoxytetraphenylmethane, hydroxy- (v. BAEYER), 1909, A., i, 642.
- p*-Methoxythiobenzoyl disulphide (HÜHN and BLOCH), 1911, A., i, 50.
- 2'-Methoxy-2-thioldiphenylsulphone and its methyl ether (FRIES and VOGT), 1911, A., i, 557.
- 2-Methoxythionaphthen and its picrate (FRIEDLÄNDER and MÜLLER), 1907, A., i, 335.
- 5-Methoxythionaphthen, tri- and tetra-chloro- (BARGER and EWINS), 1908, T., 2089.
- 2-Methoxythionaphthen-1-carboxylic acid, and its methyl ester (AUWERS), 1912, A., i, 1011.
- p*-Methoxythiophenol, *m*-amino-, and its salts, disulphide and its diazotisation, and diacetyl derivative (GNEHM and KNECHT), 1906, A., i, 836.
- Methoxythioxanthone (DAVIS and SMILES), 1910, T., 1297; P., 174.
- 3-Methoxy-*o*-tolualdehyde (PERKIN and WEIZMANN), 1906, T., 1652.
- Methoxytolualdehydes and their derivatives, synthesis of (GATTERMANN), 1908, A., i, 32.
- Methoxytoluenes. See Toly methyl ethers.
- 4-Methoxytoluene-3-sulphinic acid and its oxidation (SMILES and LE ROSSIGNOL), 1908, T., 758.
- 4-Methoxytoluene-3-sulphinyl chloride (HILDITCH and SMILES), 1909, A., i, 19.
- p*-Methoxytoluene-*m*-sulphonic acid and its salts (ALLEMAN), 1904, A., i, 202.
- 3-Methoxy-2-toluic acid and its methyl ester (CHUIT and BOLSING), 1906, A., i, 283.
- $\omega$ -Methoxy-2-toluic acid, 3:5:6-tribromo-4-hydroxy-, and its acetyl derivative (ZINCKE and FISCHER), 1907, A., i, 133.
- 2-Methoxy-3-toluic acid, methyl ester (GUILLAUMIN), 1910, A., i, 375.
- 5-Methoxy-3-toluic acid and its methyl ester (MELDRUM), 1911, T., 1716.
- 2-Methoxy-4-toluic acid and its methyl ester (PERKIN and WEIZMANN), 1906, T., 1658.
- 2-Methoxy-4-toluic acid, 3:5-dibromo-, and its methyl ester (FRIES and VOLK), 1910, A., i, 334.
- Methoxytoluic acids, 2:*p*- and 4:*o*- (EYKMAN), 1904, A., i, 665.  
4- and 6-, 6- and 4-nitro- (MALTESE), 1907, A., i, 913.
- 2-Methoxy-*p*-toluidine and its acetyl derivative (BLANKSMA), 1911, A., i, 62.
- 2-Methoxy-*p*-toluidine, 3:5-dinitro-, and its acetyl derivative (BLANKSMA), 1911, A., i, 39.
- 4'(or 2')-Methoxy-2-*o*(or *p*-)-toluoylbenzoic acid, 3:6-dichloro- (WALSH and WEIZMANN), 1910, T., 691.
- 3-Methoxytolu-quinol and -quinone (HENRICH and NACHTIGALL), 1903, A., i, 415.
- 4-Methoxy-2:5-toluquinol (LUFF, PERKIN, and ROBINSON), 1910, T., 1137.
- 4-Methoxy-2:5-toluquinone (LUFF, PERKIN, and ROBINSON), 1910, T., 1137; P., 132.
- m*-Methoxytolyl sulphoxide (SMILES and LE ROSSIGNOL), 1908, T., 756.
- p*-Methoxytolyl sulphoxide (SMILES and LE ROSSIGNOL), 1908, T., 759.
- 3-Methoxy-*o*-tolylaeric acid (PERKIN and WEIZMANN), 1906, T., 1652.
- 2-Methoxytolyl-3-carbamide and -thio-carbamide (SPIEGEL, MUNBLIT, and KAUFMANN), 1906, A., i, 837.

- 2-Methoxy-3-*p*-tolylisooxazolidone** (POSNER and OPPERMAN), 1907, A., i, 56.
- 2-Methoxy- $\alpha$ -*p*-tolylpropionic acid,  $\alpha\beta$ -3:5-tetrabromo-** (FRIES and VOLK), 1910, A., i, 334.
- 5-Methoxy-1-*p*-tolyl-1:2:3-triazole-4-carboxylic acid**, ethyl ester (DIMROTH and STAHL), 1905, A., i, 385.
- Methoxytricarballic acid** (*methyl-ocitric acid*) and its methyl ester and silver salt (ANSCHÜTZ), 1903, A., i, 550.
- Methoxytrimetic acid** and its trimethyl ester (ULLMANN and BRITNER), 1909, A., i, 590.
- 5-Methoxy-1:3:7-trimethylisouric acid** (BILTZ), 1911, A., i, 168.
- 4-Methoxytriphenylacetone nitrile** (VORLÄNDER, FRIEDBERG, VAN DER MERVE, ROSENTHAL, HUTH, and V. BODECKER), 1911, A., i, 867.
- 4'-Methoxytriphenylcarbinol**, 2:4-di-hydroxy- (V. BAEYER, AICKELIN, DIEHL, HALLENSLEBEN, and HESS), 1910, A., i, 250.
- v*-Methoxytriphenylchloromethane** (BISTRZYCKI and HERBST), 1903, A., i, 639.
- i*- and *l*- $\alpha$ -Methoxy- $\alpha\beta$ -triphenylethane,  $\beta$ -hydroxy-** (MCKENZIE and WREN), 1910, T., 483.
- p*-Methoxytriphenylethylene** (STAUDINGER and KON), 1911, A., i, 879.
- $\alpha$ - (or  $\beta$ )-Methoxy-6-1:2-triphenyl-3-ethylhydrazimethylene** (RASSOW and BURMEISTER), 1911, A., i, 821.
- $\alpha$ -Methoxytriphenylfulgenic acids**, *o*- and *p*-, and their salts and fulgides (STOBBE, BENARY, and NETTEL), 1906, A., i, 279.
- m*-Methoxytriphenylmethane** (KAUFFMANN and PANNWITZ), 1912, A., i, 351.
- 3-Methoxytritanic acid** and its methyl ester and potassium salt, ***m*-Methoxytritanol** and ***m*-Methoxytritanone** (V. LIEBIG and KEIM), 1907, A., i, 930.
- 3-Methoxytritanic acid**, 4-hydroxy- (V. LIEBIG), 1908, A., i, 541.
- 5-Methoxytritanic acid**, 3-hydroxy-, and its lactone (V. LIEBIG), 1905, A., i, 782.
- o*-Methoxytritanol-3-sulphonic acid**, ammonium salt (V. LIEBIG and HERB), 1908, A., i, 450.
- Methoxyvitaldehyde** and its bisphenyl-hydrazone and dioxime (ULLMANN and BRITNER), 1909, A., i, 591.
- 4-Methoxyvitic acid** (ULLMANN and BRITNER), 1909, A., i, 590.
- Methoxyvityl alcohol** (ULLMANN and BRITNER), 1909, A., i, 590.
- $\delta$ -Methoxy- $\gamma$ -valerolactone** (LEUCHS, GIUA, and BREWSTER), 1912, A., i, 604.
- 1- $\alpha$ - (or  $\beta$ )-Methoxyvinylthiolanthraquinone** (GATTERMANN), 1912, A., i, 1004.
- 1-Methoxyxanthone** (ULLMANN and PANCHAUD), 1907, A., i, 63.
- 3-Methoxyxanthone** (ULLMANN and WAGNER), 1907, A., i, 848; (V. BAEYER, AICKELIN, DIEHL, HALLENSLEBEN, and HESS), 1910, A., i, 250.
- 5-Methoxyxanthone hydrobromide** (GOMBERG and CONE), 1910, A., i, 872.
- Methoxyxanthones**, 2- and 4- (ULLMANN and ZLOKASOFF), 1905, A., i, 598.
- 2-Methoxy-*p*-xylene**, 3:5-*di*- and *tri*-nitro- (BLANKSMA), 1905, A., i, 426.
- 5-Methoxy-*m*-xylene-2-sulphonic acid** (SMILES and LE ROSSIGNOL), 1908, T., 761.
- 5-Methoxy-*m*-2-xylidine** (2:6-dimethyl-1:4-*anisidine*) (BAMBERGER), 1903, A., i, 624.
- 2-Methoxy-*p*-xylidine**, 3-nitro-, and its 6-sulphonic acid (BLANKSMA), 1905, A., i, 426.
- 5-Methoxy-*m*-xylol sulphoxide** (SMILES and LE ROSSIGNOL), 1908, T., 761.
- Methronic acid**, constitution of (TREPILIEFF), 1906, A., i, 528; 1908, A., i, 735; (SCHROETER), 1906, A., i, 598.
- bromo-derivatives, constitution of (TREPILIEFF), 1908, A., i, 735.
- Methyl**, replacement of alkyl radicles by, in substituted ammonium compounds (JONES and HILL), 1907, T., 2083; P., 290.
- Methyl acetolate**, polymeride of (HENRY; KLING), 1904, A., i, 474.
- Methyl alcohol**, preparation of pure, and its specific gravity (KLASON and NORLIN), 1906, A., i, 921.
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- distillation of (BIRSTEIN, DENNELER, and HEIDUSCHKA), 1912, A., i, 67.
- impurities and denaturing agents of, action of, on metals (DUCHEMIN), 1909, A., i, 450.
- effect of electrical discharges of high frequency on the vapour of (JACKSON and NORTHALL-LAURIE), 1906, T., 1190; P., 156.
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$\delta$ -aminobutyl sulphide and its salts (SCHNEIDER and KAUFMANN), 1912, A., i, 837.

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$\beta$ -aminoethyl sulphide and its salts (SCHNEIDER, MÜLLER, and BECK), 1912, A., i, 191.

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$\gamma$ -aminopropyl sulphide and its derivatives (SCHNEIDER), 1910, A., i, 659.

$\gamma$ -amino- and  $\gamma$ -bromo-propylsulphone and their derivatives (SCHNEIDER), 1910, A., i, 659.

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$\epsilon$ -dimethylaminoamyl ether (v. BRAUN), 1911, A., i, 613.

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- $\beta$ -Methylaceanthrenequinone** (LIEBERMANN and BUTESCU), 1912, A., i, 467.
- Methylacetal**, bromo- (FREUNDLER and LEDRU), 1905, A., i, 326.
- Methylacetenylcarbinol**. See Butineneg- $\gamma$ -ol.
- Methylacetoacetic acid**, ethyl ester, additive products of, with benzylideneaniline (FRANCIS and TAYLOR), 1904, T., 998 ; P., 113.
- Methylacetoacetic acid**,  $\alpha$ -chloro-, methyl ester (FORSTER and NEWMAN), 1910, T., 1363.
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- Methylacetone**. See Methyl ethyl ketone.
- Methylacetonylanthranilic acid** (HOUBEN, ARENDT, and ETTINGER), 1911, A., i, 129.
- 3-Methyl-2-acetonyl-4-quinazolone** (MUMM and BERGELL), 1912, A., i, 1015.
- Methylacetophenone**. See Tollyl methyl ketone.
- 3-Methyl-4-acetoxyethylpyrazolone-1-carboxylamide** (HALLER and MARCH), 1904, A., i, 713.
- Methylacetylacetone**, condensation product of, with resorcinol (BÜLOW), 1903, A., i, 272.
- $\beta$ -Methylacetylacrylic acid** (FARBENFABRIKEN VORM. F. BAYER & Co.), 1912, A., i, 414.
- m*-Methyl- $\alpha$ -acetylanilinoethylbenzene**, *o*-hydroxy-, and its methyl ether (ANSELMINO), 1907, A., i, 914.
- 5-Methylacetylanthranil**, 4-amino-, acetyl derivative (BOGERT and KROPPF), 1909, A., i, 584.
- $\alpha$ -1-Methyl-4-acetylcyclohexan-3-one-*m*-hydroxyanil** (BORSCHKE, SCHMIDT, TIEDTKE, and ROTTSIEPER), 1910, A., i, 882.
- Methylaconic acid** (FITTIG and SCHEEN), 1904, A., i, 555.
- $\alpha$ -Methylaconitic acid** and its silver salt (ANSCHUTZ and DESCHAUER), 1906, A., i, 728.
- Methyлаconitic acids**,  $\alpha$ - and  $\gamma$ -, formation and tautomerism of (ROGERSON and THORPE), 1906, T., 642 ; P., 87.
- $\alpha$ -Methylacraldehyde**, methylacetal of (ZEISEL and DANIEK), 1910, A., i, 92.
- 5-Methylacridine** and its salts (DECKER and KLAUSER), 1905, A., i, 667.
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- 10-Methylacridine**, salts of (KAUFMANN, ALBERTINI, and WIDMER), 1911, A., i, 751.
- 10-Methylacridinium salts**, 2:8-*diamino*- (BENDA), 1912, A., i, 651.
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- 2-Methylacridone**, 7-chloro-1:9-*dinitro*- (ZINCKE and SIEBERT), 1906, A., i, 516.
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- 7-Methylacridone**, 1:3:6-*trinitro* (CUTTITTA), 1906, A., i, 697.
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- $\alpha$ -Methyladipic acid**, formation of, from  $\delta$ -cyanohexioic acid (BEST and THORPE), 1909, T., 712 ; P., 93.
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- $\beta$ -Methyladipic acid** and its esters, salts, and anilides (MARKOWNIKOFF), 1903, A., i, 844.  
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- $\beta$ -Methyladipic acid,  $\delta$ -amino-, and its copper salt** (DIECKMANN), 1905, A., i, 417.  
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- $\gamma$ -Methyladipic acid,  $\alpha$ -amino-, *N*-benzoyl derivative of** (DIECKMANN), 1905, A., i, 418.
- Methyladipic acids,  $\alpha$ - and  $\beta$ -** (PERKIN and TATTERSALL), 1905, T., 1085.
- $\alpha$ -Methyladrenaline** (BÖTTCHER), 1909, A., i, 153.
- $\beta$ -Methyladrenaline** and its hydriodide and dimethyl ether (MANNICH and JACOBSON), 1909, A., i, 321.
- N*-Methyladrenaline** trimethyl ether, and its hydrochloride (MANNICH and NEUBERG), 1910, A., i, 413.  
 methylene ether, its methyl ether and derivatives (MANNICH and JACOBSON), 1910, A., i, 414.
- $\beta$ -Methylisoadrenaline** dimethyl ether, hydrochloride (MANNICH and JACOBSON), 1910, A., i, 413.  
 methylene ether, and its methyl ether and derivatives (MANNICH and JACOBSON), 1910, A., i, 414.
- $\beta$ -Methylasculetin**, derivatives of (BARGELLINI and MARTEGIANI), 1912, A., i, 292.  
 acetyl derivative (POWER and MOORE), 1909, T., 256; P., 27.
- Methylal**, chlorination of (HENRY; DESCUDÉ), 1906, A., i, 558.  
 and sulphuric acid, condensation of petroleum with (HERR), 1910, A., ii, 904.
- 1-Methylalizarin** 3:4-dimethyl ether (PERKIN and WEIZMANN), 1906, T., 1660.
- $\gamma$ -Methyl- $\alpha$ -alkyladipic acids**, esters, rotation of (HALLER and DESFONTAINES), 1905, A., ii, 429.
- 5-Methyl-2-alkylbenziminazoles**, preparation of (FICHTER and ROSENBERGER), 1907, A., i, 85.
- Methylalkyldimethylaminomethylcarbinols** and their benzoates and chlorohydrins (FOURNEAU), 1904, A., i, 377.
- 1-Methyl-4-alkyl-3-cyclohexanols**, synthesis of, and their phenylcarbamates (HALLER and MARCH), 1905, A., i, 214, 276.
- 1-Methyl-4-alkyl-4-cyclohexanols** and their phenylcarbamates (SABATIER and MAILHE), 1906, A., i, 254.
- 1-Methyl-4-alkyl-3-cyclohexanones** and their semicarbazones (HALLER), 1905, A., i, 214.
- 1-Methyl-4-alkylcyclohexenes** (SABATIER and MAILHE), 1906, A., i, 254.
- 4-Methyl-1-alkyl-2-cyclopentanonecarboxylic acids**, esters, rotation of (HALLER and DESFONTAINES), 1905, A., ii, 429.
- $\beta$ -Methylallantoin**, constitution of (SIEMONSEN), 1904, A., i, 951.
- $\alpha$ -Methylallyl alcohol**. See  $\Delta\alpha$ -Buten- $\gamma$ -ol.
- $\gamma$ -Methylallylacetic acid**. See  $\gamma$ -Methyl- $\Delta\gamma$ -pentenoic acid.
- Methylallyladiacetic acid** (*octylenedicarboxylic acid*),  $\beta\delta$ - or  $\delta\alpha$ -, and its esters (HALLER and DESFONTAINES), 1903, A., i, 628.
- Methylallyl-*o*-anisidine** and its picrate (WEDEKIND and FRÖHLICH), 1906, A., i, 162.
- Methylallyl-*p*-anisidine** (FRÖHLICH and WEDEKIND), 1907, A., i, 411.
- p*-Methylallylbenzene** (KUNCKELL), 1903, A., i, 617.
- $\beta$ -Methyl- $\alpha$ -allylbutyric acid,  $\alpha$ -hydroxy-, and its ethyl ester** (DARZENS), 1911, A., i, 260.
- Methylallyldiacetonalkamine**. See Methyl- $\beta$ -methylallylaminoisobutylcarbinol.
- Methylallylglutaconimide**, cyano-, and its metallic derivatives (GIARESCI), 1905, A., i, 823.
- 1-Methyl-3-allylcyclohexan-3-ol**, and its oxidation products (SAYTZEFF), 1911, A., i, 444.
- 1-Methyl-3-allyl- $\Delta^1$ -cyclohexen-3-ol** (MATSCHUREVITSCH), 1911, A., i, 962.
- 1-Methyl-3-allylcyclopentan-4-one** and its semicarbazone (BLANC), 1907, A., i, 710.
- 4-Methyl-1-allyl- and -1-*n*-propyl-2-cyclopentanone-2-carboxylic acids**, ethyl esters (HALLER and DESFONTAINES), 1903, A., i, 628.

**Methylallyl-*p*-phenetidine** (WEDEKIND and FRÖHLICH), 1907, A., i, 410.

**Methylallylpropylamine** and its platinichloride and aurichloride (EMDE and SCHELLBACH), 1911, A., i, 282.

**1-Methyl-3-allyl-4-isopropylidenecyclohexan-3-ol** (V. FERSEN), 1910, A., i, 863.

**4-Methyl-1-allyltetrahydro-6-pyrimidone**, 2-imino-, and its picrate (MAJIMA), 1908, A., i, 223.

**Methylallyltetrahydroquinaldinium iodide** (WEDEKIND), 1905, A., i, 521.

**Methylallyltetrahydroquinolium salts**, resolution of (E. and O. WEDEKIND), 1907, A., i, 1073.

**Methylallyl-*o*-toluidine** (WEDEKIND and OBERHEIDE), 1904, A., i, 992.

**Methylallyl-*p*-toluidine** and its picrate (WEDEKIND and OBERHEIDE), 1904, A., i, 733.

**4-Methyl-1- and -3-allyluracil** (BÜCKENDORFF), 1912, A., i, 55.

**4-Methyl-3-isoamerylsalicylic acid** and its dibromide (MEERWEIN), 1908, A., i, 90.

**Methylamine**, two methods of preparing (FRANÇOIS), 1908, A., i, 506, 768; (BERTHEAUME), 1908, A., ii, 742.

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modification of the preparation of, from bromoacetamide (FRANÇOIS), 1908, A., i, 956.

theory of the preparation of, from solutions of acetyl bromoamide (FRANÇOIS), 1909, A., i, 13.

liquid, as a solvent, and a study of its chemical reactivity (GIBBS), 1906, A., i, 933.

optical rotatory power of solutions of (SHERRY), 1907, A., ii, 920.

electrical conductivity of solutions of (FRANKLIN and GIBBS), 1907, A., ii, 840.

boiling point of (GIBBS), 1905, A., ii, 570.

oxidation of (BAMBERGER and SELIGMAN), 1903, A., i, 152.

action of, on caesium (RENGADE), 1905, A., i, 174.

action of, on chromic chloride (LANG and JOLLIFFE), 1903, P., 147.

action of cyanogen chloride on (KAESS and GRUSZKIEWICZ), 1903, A., i, 11.

action of, on furfuraldehyde (LITTERSCHEID), 1905, A., i, 76.

action of, on mesityl oxide (HOCHSTETTER and KOHN), 1904, A., i, 18.

**Methylamine**, action of, on salicylic acid and methyl *o*-ethoxybenzoate (NICOLA), 1907, A., i, 853.

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combinations of, with mercuric iodide (FRANÇOIS), 1906, A., i, 484.

silver compounds, composition of (BODLÄNDER and EBERLEIN), 1904, A., i, 145.

*N*-benzoyl derivative, *N*-chloro- (SLOSSON), 1903, A., i, 476.

thiobenzoyl derivative (SACHS and LOEVY), 1904, A., i, 307.

cobaltinitrite (CUNNINGHAM and PERKIN), 1909, T., 1564.

iodomercurates and chloriodomercurate of (FRANÇOIS), 1905, A., i, 574.

magnesium phosphate (FRANÇOIS), 1908, A., i, 505.

uranyl phosphate (BARTHE), 1911, A., i, 526.

styphnate, preparation and crystallography of (JERUSALEM), 1909, T., 1285.

separation of ammonia and (FRANÇOIS), 1907, A., i, 391; ii, 503.

**Methylamine**, *N*-nitro-. See Methyl-nitroamine.

**Methylamines**, heat of combustion and relative density of (MULLER), 1910, A., ii, 485.

detection of, in presence of ammonia (TSALAPATINI), 1908, A., ii, 440.

**Methylaminoacetocatechol** and its hydrochloride (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1904, A., i, 873.

**Methylaminoacetoneitrile**, cyano- (v. BRAUN), 1907, A., i, 899.

**Methylaminoacetylcatechol** (DAKIN), 1905, P., 154.

**$\beta$ -Methylamino- $\alpha$ -acetylcrotonic acid**, ethyl ester (BENARY), 1909, A., i, 890.

**Methyl  $\epsilon$ -aminoamyl ketone** and its picrate, platinichloride, and phenylhydrazone (GABRIEL), 1909, A., i, 492.

**2:5-*p*-Methylaminoanilo-1-phenyl-2:3-dimethylpyrazole** and its salts and derivatives (MICHAELIS, WÜRL, and DOEPMANN), 1911, A., i, 1041.

**3-Methylaminoanisole**, 2:4-*d*-nitro- (BLANKSMA), 1909, A., i, 150.

4:6-*d*-nitro- (BLANKSMA), 1904, A., i, 577.

**Methyl-2:4-diaminoanisole** (AKTIENGESELLSCHAFT FÜR ANILIN-FABRIKATION), 1911, A., i, 493.

**1-Methylaminoanthraquinone** (FARBENFABRIKEN VORM. F. BAYER & Co.), 1905, A., i, 145; (ULLMANN and FODOR), 1911, A., i, 467.

**1-Methylaminoanthraquinone, 5- and 8-amino-** (SCHMIDT), 1904, A., i, 257.

**Methylaminoanthraquinone, 4-bromo-** (FARBENFABRIKEN VORM. F. BAYER & Co.), 1911, A., i, 469.

**6- and 7-chloro-** (BADISCHE ANILIN- & SODA-FABRIK), 1909, A., i, 940.

**2- and 4-nitro-** (FARBENFABRIKEN VORM. F. BAYER & Co.), 1905, A., i, 362.

**4- and 5-Methylaminoanthraquinones, 1-thiocyano-, and their derivatives** (GATTERMANN), 1912, A., i, 1000.

**5- and 8-Methylaminoanthraquinones, 2-chloro-derivatives of** (BADISCHE ANILIN- & SODA-FABRIK), 1909, A., i, 940.

**6- and 7-Methylaminoanthraquinones, 1-amino-derivatives of** (BADISCHE ANILIN- & SODA-FABRIK), 1909, A., i, 940.

**Methylaminoanthraquinone-2-carboxylic acid and its salts** (BADISCHE ANILIN- & SODA-FABRIK), 1912, A., i, 979.

**1-Methylaminoanthraquinone-5- and -8-sulphonic acids** (SCHMIDT), 1904, A., i, 257; (FARBENFABRIKEN VORM. F. BAYER & Co.), 1907, A., i, 942.

**1-Methylamino-4- $\beta$ -anthraquinonylaminoanthraquinone** (FARBENFABRIKEN VORM. F. BAYER & Co.), 1910, A., i, 445.

**4-Methylaminoanthraquinonylthiolacetic acid** (GATTERMANN), 1912, A., i, 1004.

**4- and 5-Methylaminoanthraquinone-1-thiazoles** (GATTERMANN), 1912, A., i, 1005.

***p*'-Methylaminoazobenzene, *p*-nitro-, and its acetyl derivative** (WITT and KOPETSHNI), 1912, A., i, 518.

***o*-Methylaminobenzaldehyde and its salts, oxime, phenylhydrazones, and benzoyl derivative** (BAMBERGER), 1904, A., i, 423.

physical constants of (SCHMIDT), 1905, A., i, 213.

phenylhydrazone (HELLER), 1904, A., i, 160.

***p*-Methylaminobenzaldehydephenylhydrazine, liquid crystals of** (ROTARSKI), 1908, A., i, 640.

***o*-Methylaminobenzoic acid.** See Methylanthranilic acid.

***m*-Methylaminobenzoic acid, hydrochloride, and its ethyl ester** (HOUBEN and BRASSERT), 1910, A., i, 170.

***p*-Methylaminobenzoic acid** (HOUBEN), 1904, A., i, 1014.

***p*-Methylaminobenzoic acid and its methyl ester** (JOHNSTON), 1905, P., 156.

and its salts and nitroso-derivative (JAFFÉ), 1905, A., i, 344.

diethylaminoethyl and piperidylethyl esters (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING, 1907, A., i, 924.

ethyl ester, and its hydrochloride (HOUBEN, SCHOTTMÜLLER, and BRASSERT), 1909, A., i, 922.

***p*-Methylaminobenzoic acid, 3-nitro-, and its ethyl ester and acetyl derivative** (NOELTING and DEMANT), 1904, A., i, 424.

methyl ester, 3:5-dinitro-, and its methyl ester, and 3:5-dinitro- $\omega$ -nitro-, and 3:5-dinitro- $\omega$ -nitroso-, methyl esters (REVERDIN and DE LUC), 1908, A., i, 167.

3:5-dinitro- (ULLMANN and WOSNESSENSKY), 1909, A., i, 475.

nitroso- (BAUDISCH), 1907, A., i, 131.

**Methylaminobenzoic acids, *m*- and *p*-,  $\omega$ -cyano-** (HOUBEN and ARNOLD), 1908, A., i, 534.

***p*-Methylaminobenzonitrile and nitroso-** (SACHS and STEINERT), 1904, A., i, 507.

***o*-Methylaminobenzophenone** (ULLMANN and BLEIER), 1903, A., i, 176.

**$\beta$ -Methylamino- $\alpha$ -benzoylcrotonic acid, ethyl ester** (BENARY), 1909, A., i, 890.

**Methylaminobenzylacetomethylamide, transformation of, into benzoylacetomethylamide** (GUARESCHI), 1904, A., i, 891.

**5-Methylaminobenzyl-3-methylbenzoic acid, 2-hydroxy-** (ANILINFARBEN & EXTRAKT-FABRIKEN VORM. J. R. GEIGY), 1911, A., i, 978.

**$\omega$ -Methylaminobenzylmethylcarbinol and its hydrochloride** (SCHMIDT and CALLIESS), 1911, A., i, 743.

**$\omega$ -Methylaminobenzyl methyl ketone and its hydrochloride** (SCHMIDT and CALLIESS), 1911, A., i, 743.

**Methylaminobishydroxyisobutyric acid, ethyl ester** (FOURNEAU), 1909, A., i, 211.

**$\beta$ -Methylamino-*n*-butane, and its derivatives** (LÖFFLER and FREYTAG), 1910, A., i, 632.

**Methyl- $\beta$ -aminoisobutylcarbinol.** See Diacetonealkamine.



- $\gamma$ -Methylaminobutyric acid** (TAFEL and WASSMUTH), 1907, A., i, 720.
- $\alpha$ - and  $\gamma$ -Methylaminobutyric acids**, and their derivatives (GANSSER), 1909, A., i, 703.
- Methylaminocamphene** and its platinichloride (FORSTER and MICKLETHWAIT), 1904, T., 334; P., 19.
- 4-Methylamino-3-carbomethoxyphenyl- $\mu$ -cyanoazophenylmethine**, 4'-nitro-, and its salt with sulphuric acid (HOUBEN, BRASSERT, and ETTINGER), 1909, A., i, 646.
- 4-Methylamino-3-carboxyphenyl- $\mu$ -cyanoazomethinecarboxylic acid**, ethyl ester (HOUBEN, BRASSERT, and ETTINGER), 1909, A., i, 646.
- 4-Methylamino-3-carboxyphenyl- $\mu$ -cyanoazophenylmethine**, and 4'-nitro- (HOUBEN, BRASSERT, and ETTINGER), 1909, A., i, 646.
- N-Methyl-6-aminocoumarin** and its benzenesulphonyl and nitroso-derivatives (MORGAN and MICKLETHWAIT), 1904, T., 1238; P., 177.
- Methyldiaminodiarylmethane- $\omega$ -sulphonic acids** (ANILINFARBEN- & EXTRACT-FABRIKEN VORM. J. R. GEIGY), 1904, A., i, 452.
- 6-Methylaminodihydro-2-pyrimidone** and 5-amino- (JOHNS), 1911, A., i, 507.
- $\gamma$ -Methylamino- $\alpha\gamma$ -dimethylbutyl benzoate** (CHEMISCHE FABRIK AUF AKTIEN VORM. E. SCHERING), 1907, A., i, 925.
- 4-Methylamino-3:3'-dimethyldiphenyl-4'-azo-*p*-dimethylaniline** and its derivatives (RASSOW and BECKER), 1911, A., i, 932.
- 4-Methylamino-3:3'-dimethyldiphenyl-4'-azo- $\beta$ -naphthol** (RASSOW and BECKER), 1911, A., i, 932.
- 4-Methylamino-3:3'-dimethyldiphenyl-4'-azo- $\beta$ -naphthol-(3:6)-disulphonic acid**, sodium salt (RASSOW and BECKER), 1911, A., i, 933.
- 4-Methylamino-3:3'-dimethyldiphenyl-4'-diazonium chloride** (RASSOW and BECKER), 1911, A., i, 932.
- Methylaminodimethylethylcarbinol** and its acyl derivative (RIEDEL), 1907, A., i, 897.
- and its divaleryl derivative (RIEDEL), 1908, A., i, 957.
- $\epsilon$ -Methylamino- $\beta\epsilon$ -dimethyl- $\Delta\beta$ -hexene**. See Nonylene,  $\epsilon$ -amino-.
- 5-Methylamino-1:3-dimethylhydantoin**, (*accafferrine*) (BILTZ and KREBS), 1911, A., i, 241.
- 1-Methylamino-2:5-dimethylpyrrole-3:4-dicarboxylic acid** (BÜLOW, RIESS, and SAUTERMEISTER), 1905, A., i, 661.
- 4-Methylamino-1:4-di- and -1:2:2:4-tetra-methyl-5-pyrrolidones** and their phenylthiocarbamides (KOHN), 1908, A., i, 829.
- $\alpha$ -Methylamino- $\alpha\gamma$ -dimethylvaleric acid**,  $\gamma$ -hydroxy-, lactone. See 5-Keto-4-methylamino-2:2:4-trimethyltetrahydrofuran.
- 4'(or 2')-Methylaminodiphenyl**, 2-(or 4)-amino-, and its derivatives (RASSOW and BERGER), 1911, A., i, 821.
- Methylaminodiphenylacetic acid** (BILTZ and SEYDEL), 1912, A., i, 910.
- 4'-Methylaminodiphenylamine**, 3'-chloro-4-hydroxy- (CHEMISCHE FABRIK GRIESHEIM-ELEKTRON), 1906, A., i, 890.
- 4-Methylaminodiphenyl-4'-azo-*p*-dimethylaniline** and its hydrochloride (RASSOW and BERGER), 1911, A., i, 821.
- 4'-Methylamino-4-ethoxydiphenylamine**, 3'-chloro- (CHEMISCHE FABRIK GRIESHEIM-ELEKTRON), 1906, A., i, 890.
- 4-Methylamino-5-ethoxy-1-phenyl-3-methylpyrazole**, cyano- (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1908, A., i, 472.
- $\beta$ -Methylaminoethyl alcohol** and ether, melting point, specific gravity, and refractive index of (KNORR and MEYER), 1905, A., i, 748.
- benzoate and its hydrochloride (CHEMISCHE FABRIK AUF AKTIEN VORM. E. SCHERING), 1906, A., i, 952.
- ether and its salts (KNORR and MEYER), 1905, A., i, 748.
- mercaptan and its picrate (GABRIEL and COLMAN), 1912, A., i, 530.
- 2- $\beta$ -Methylaminoethylbenzaldehyde** (PYMAN), 1909, T., 1749.
- 1-Methyl-4-aminoethyl-3-ethyl- and -3-vinyl-piperidines** and their additive salts (KOENIGS, BERNHART, and IBELE), 1907, A., i, 717.
- 4(or 5)-Methyl-5(or 4)- $\beta$ -aminoethylglyoxaline** and its salts (EWINS), 1911, T., 2057; P., 259.
- 2- $\beta$ -Methylaminoethylpyridine** and its salts (LOFFLER), 1904, A., i, 265.
- 6-Methylamino-2-ethylthiol-4-methylpyrimidine** (JOHNS), 1912, A., i, 589.
- 6-Methylamino-2-ethylthiolpyrimidine** (JOHNS), 1911, A., i, 506.

- Methylaminofluoran**, chloro- (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1903, A., i, 510.
- δ-Methylamino-*n*-heptane** and its derivatives (LÖFFLER and FREYTAG), 1910, A., i, 632.
- 1-Methylamino-Δ<sup>4</sup>-cyclohepten-3-ol** and its isomeride (WILLSTÄTTER), 1903, A., i, 360.
- γ-Methylaminohexane** and its platinichloride (LÖFFLER and BOBILOFF), 1910, A., i, 633.
- Methylaminocyclohexane** (SABATIER and MAILHE), 1912, A., i, 103.
- Methyl ζ-aminoheptyl ketone** and its aurichloride and platinichloride (GABRIEL), 1909, A., i, 891.
- benzenesulphonyl derivative of (GABRIEL), 1910, A., i, 229.
- β-Methylamino-α-hydroxyisobutyric acid** and its ethyl ester (LES ÉTABLISSEMENTS POULENC FRÈRES and ERNEST FOURNEAU), 1908, A., i, 938.
- methylamide of (FOURNEAU), 1909, A., i, 211.
- 4'-Methylamino-2:4-dihydroxydiphenylmethane** (FRIEDLÄNDER and v. HORVATH), 1903, A., i, 253.
- 3-Methylamino-4-hydroxyphenylarsinic acid** (BERTHEIM), 1912, A., i, 818.
- ε-Methylamino-ε-imino-βδ-dihydroxy-αγ-diphenylpentane** (SPÄTH), 1912, A., i, 979.
- α-Methylamino-β-3:5-di-iodo-4-hydroxyphenylpropionic acid** (JOHNSON and NICOLET), 1912, A., i, 586.
- Methylaminoketo-**. See Ketomethylamino-.
- 1-Methylamino-4-methoxyanthraquinone** (FARBENFABRIKEN VORM. F. BAYER & Co.), 1911, A., i, 469.
- 2-Methylamino-3-methoxybenzoic acid**. See Damascenic acid.
- α-Methylamino-β-*p*-methoxyphenylpropionic acid** (FRIEDMANN and GUTMANN), 1910, A., i, 741.
- 2-Methylamino-8-methoxyquinoline** and its nitrosamine (FISCHER, BERCKHEMER, and ULBRICHT), 1903, A., i, 53.
- p*-Methylamino-*m*-methylbenzylidene-*p*-dimethylaminoaniline** (ULLMANN and FREY), 1904, A., i, 423.
- 2-Methylamino-5-methyldihydro-6-pyrimidone** and its salts (JOHNSON and MACKENZIE), 1909, A., i, 840.
- 2-Methylamino-5-methyldihydro-6-pyrimidone-4-carboxylic acid** and its methylamine salt and hydrochloride (JOHNSON and MACKENZIE), 1909, A., i, 840.
- β-Methylamino-3:4-methylenedioxyphenyl-α-ethanol** (PAULY and NEUKAM), 1909, A., i, 97.
- α-Methylaminomethylglucoside** and its additive compound with silver iodide (IRVINE and HYND), 1912, T., 1141.
- 1-Methyl-4- and -5-β-aminomethylglyoxaline** and their salts (PYMAN), 1911, T., 2182; P., 275.
- 4(or 5)-Methyl-5(or 4)-aminomethylglyoxaline** and its salts (EWINS), 1911, T., 2059; P., 259.
- δ-Methylamino-β-methylheptan-ζ-ol**. See Methyl-β-methylaminoisheptylcarbinol.
- γ-Methylamino-β-methylhexan-ε-ol**. See Methyl-β-methylaminoisamylcarbinol.
- β-Methylamino-β-methylpentane**, δ-amino-, and its additive salts and cyclic carbamide (KOHN and MORGENSTERN), 1908, A., i, 769.
- δ-bromo-, hydrobromide of (KOHN), 1907, A., i, 338.
- 2-Methylamino-4-methylpyrimidine**, 6-chloro-, and its picrate (JOHNSON and MACKENZIE), 1909, A., i, 840.
- 2-Methylamino-5-methylpyrimidine** and its hydrochloride and picrate and 6-chloro- (JOHNSON and MACKENZIE), 1909, A., i, 839.
- 6-Methylamino-4-methyl-2-pyrimidone**, and 5-nitro- (JOHNS), 1912, A., i, 589.
- 5-amino-, acetyl derivative (JOHNS), 1912, A., i, 799.
- Methylamino-1-methyltetrahydroquinazoline-2:4-dione** (KUNCKELL), 1910, A., i, 439.
- 2-Methylamino-4-methylthiazole**, methylation of (YOUNG and CROOKES), 1905, P., 308; 1906, T., 68.
- 6-Methylamino-2-methylthiol-5-methylpyrimidine**, 4-chloro- (WHEELER and JAMIESON), 1904, A., i, 942.
- 5-Methylamino-4-methyluracil** (WHEELER and JAMIESON), 1904, A., i, 942.
- α-Methylamino-β-*aci*-dinitroethane** (DUDEN, BOCK, and REIN), 1905, A., i, 568.
- 8-Methylaminoparaxanthine** (BOEHRINGER & SÖHNE), 1905, A., i, 230.
- β-Methylamino-*n*-pentane** and its derivatives (LÖFFLER and BOBILOFF), 1910, A., i, 633.
- 2-Methylaminophenetole**, 3-nitro- (BLANKSMA), 1908, A., i, 978.
- 3:5-dinitro-, and its nitroamine (BLANKSMA), 1905, A., i, 431.

- N*-Methyl-*o*-aminophenol, *N*-acetyl derivative of (LEES and SHEDDEN), 1903, T., 756; P., 132.
- m*-Methylaminophenol and its dibenzoyl derivative (BIEHRINGER and TANZEN), 1912, A., i, 347.
- p*-Methylaminophenol, sulphurous acid compound of (SOCIÉTÉ ANONYME DES PLAQUES ET PAPIERS PHOTOGRAPHIQUES, A. LUMIÈRE ET SES FILS), 1908, A., i, 977.
- 4-Methylaminophenyl benzoate and 2:3-dinitro- (REVERDIN and DE LUC), 1909, A., i, 377.
- o*-toluenesulphonate, and 2:3-dinitro- (REVERDIN and DE LUC), 1909, A., i, 377.
- Methylaminophenylacetic acid, ethyl ester (FOURNEAU and VILA), 1912, A., i, 26.
- $\alpha$ -Methylamino- $\alpha$ -phenylbutan- $\gamma$ -ol and its additive salts and nitroso-derivative, and aurichloride of the methiodide of its methyl ether (KOHN), 1907, A., i, 680.
- Methylaminophenyldimethylcarbinol and its dibenzoyl derivative (RIEDEL), 1907, A., i, 897; 1908, A., i, 957.
- 1-Methylaminophenyl-2:4-dimethyl-3-hydroxymethylpyrazolone, *p*-cyano- (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1910, A., i, 340.
- $\beta$ -Methylamino- $\beta$ -phenyl- $\alpha\alpha$ -dimethylpropionic acid, and its lactam (STAUDINGER, KLEVER, and KOBER), 1910, A., i, 588.
- 1-*p*-Methylaminophenyl-3:4-dimethyl-5-pyrazolone and its acetyl derivative (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1912, A., i, 136.
- p*-Methylaminophenyl- $\alpha$ - and - $\beta$ -hydroxynaphthylmethanes (FRIEDLÄNDER and v. HORVATH), 1903, A., i, 253.
- p*-Methylaminophenyl-2:3- and -2:7-dihydroxynaphthylmethanes (FRIEDLÄNDER and v. HORVATH), 1903, A., i, 253.
- Methylaminophenyliminoalloxanic acid (KÜHLING and KASELITZ), 1906, A., 465.
- Methylaminophenyl-lactic acid, methylamide of, and its derivatives (FOURNEAU), 1907, A., i, 623.
- 3-Methylaminophenylmethylnitroamine, 4-bromo-2:6-dinitro- (BLANKSMA), 1903, A., i, 333.
- 4-Methylamino-1-phenyl-3-methylpyrazolone, *N*-chloroacetyl derivative (EINHORN and MAUERMAYER), 1906, A., i, 252.
- 3-Methylamino-1-phenyl-5- $\beta$ -naphthylpyrazole (MICHAELIS and HEPNER), 1905, A., i, 481.
- $\gamma$ -Methylamino- $\alpha$ -phenylpropyl alcohol and its salts (FOURNEAU), 1907, A., i, 763.
- $\gamma$ -Methylamino- $\beta$ -phenylpropyl alcohol and its additive salts (FOURNEAU), 1905, A., i, 57.
- $\alpha$ -Methylamino- $\alpha$ -phenylisopropyl alcohol and its hydrochloride and platinichloride (EMDE and RUNNE), 1911, A., i, 715.
- o*-Methylaminophenyl-*o*-toluidinoacetic acid (v. OSTROMISLENSKY), 1908, A., i, 82.
- 5-Methylamino-1-phenyl-1:2:3-triazole (DIMROTH and HESS), 1909, A., i, 268.
- 1-*p*-Methylaminophenyl-2:3:4-trimethyl-5-pyrazolone and its acetyl derivative (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1912, A., i, 136.
- $\beta$ -Methylaminopropaldehyde diethylacetal (WOHL and JOHNSON), 1908, A., i, 49.
- $\alpha$ -Methylaminopropionic acid, derivatives of (GANSSEK), 1909, A., i, 702.
- ethyl ester (ZELINSKY, ANNENKOFF, and KULIKOFF), 1911, A., i, 773.
- $\alpha$ -Methylaminopropionic acid,  $\beta$ -amino-, and its derivatives (TAFEL and FRANKLAND), 1909, A., i, 829.
- $\beta$ -Methylaminopropionic acid and its derivatives (GANSSEK), 1909, A., i, 703.
- Methyl  $\beta$ -aminopropyl ketone and its aurichloride and platinichloride (GABRIEL and COLMAN), 1909, A., i, 492.
- Methyl  $\beta$ -aminoisopropyl ketone, salts and derivatives of (GABRIEL), 1911, A., i, 213.
- 2-Methylaminoterephthalic acid, methyl esters (WEGSCHEIDER, FALTIS, BLACK, and HUPPERT), 1912, A., i, 264.
- salts and esters of (WEGSCHEIDER and HUPPERT), 1912, A., i, 464.
- 3-Methylaminotetrahydroquinazoline-2:4-dione (KUNCKELL), 1910, A., i, 438.
- 4-Methylamino-1-thiolanthraquinone, derivatives of (GATTERMANN), 1912, A., i, 1000.
- 6-Methylamino-3-tolualdehyde and its phenylhydrazone (ULLMANN and FREY), 1904, A., i, 424.



- 6-Methylamino-*m*-toluic acid** (HOUBEN, SCHOTTMÜLLER, and FREUND), 1910, A., i, 34.
- p*-Methylamino-*o*-toluidine.** See 2:4-Tolylene-4-*N*-methyldiamine.
- o*-Methylaminotriphenylmethane** and its salts and acyl derivatives (v. BAEYER and VILLIGER), 1904, A., i, 899.
- p*-Methylaminotriphenyl-methane and -carbinol** and its acetate and picrate (v. BAEYER and VILLIGER), 1904, A., i, 786.
- $\alpha$ -Methylaminovaleric acid,  $\delta$ -*m*-nitro-benzoylamino-** (FISCHER and ZEMPLÉN), 1909, A., i, 793.
- Methyl-4:6-diamino-*m*-xylene.** See *m*-Xylylenemethyl-4:6-diamine.
- Methylammonium magnesium arsenate** (BRISAC), 1903, A., i, 606.
- iridichloride** (GUTBIER and LINDNER), 1909, A., ii, 1025.
- and **iridibromide** (GUTBIER and RIESS), 1910, A., i, 97.
- nitrite** (RÅV and RAKSHIT), 1911, T., 1016; P., 22.
- magnesium phosphate** (PORCHER and BRISAC), 1903, A., i, 607.
- osmichloride** (GUTBIER and MAISCH), 1911, A., i, 18.
- palladi-bromide and -chloride** (GUTBIER and WOERNLE), 1907, A., i, 88.
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- tungstate** (EKELEY), 1909, A., i, 556.
- $\gamma$ -Methylamyl alcohol.** See Hexyl alcohol, active.
- Methylisoamylisoallylcarbinol.** See  $\delta$  $\gamma$ -Dimethyl- $\Delta^8$ -oct-*n*- $\delta$ -ol.
- Methyl-*n*-amylamine** and its derivatives (LÖFFLER and FREYTAG), 1910, A., i, 632.
- Methylisoamylamine**, preparation of (CLARKE), 1905, A., i, 428.
- picrate (LÖFFLER and LUKOWSKY), 1910, A., i, 632.
- Methylisoamylaniline**, preparation of (THOMAS and JONES), 1906, T., 294.
- Methylisoamylaniline, *p*-bromo-**, and its additive salts (HILL), 1907, A., i, 692.
- $\gamma$ -Methylamylbenzene,  $\gamma$ -hydroxy-**, and its phenylurethane (KLAGES), 1904, A., i, 569.
- $\alpha$ -Methyl- $\gamma$ -*n*-amylbutyrolactone**, hydr-azine compound of (BLAISE and LUTTRINGER), 1905, A., i, 330.
- $\alpha$ -Methyl-*n*-amylcarbinol**, and its hydrogen phthalate and brucine and strychnine salts of the latter (PICKARD and KENYON), 1911, T., 60, 65.
- l*-Methyl-*n*-amylcarbinol**, and hydrogen phthalate of, and its cinchonidine salt (PICKARD and KENYON), 1911, T., 61, 65.
- Methyl-*n*-amylcyanamide** (v. BRAUN), 1911, A., i, 611.
- Methyl amyl diketone** (*acetylhexoyl*), oximes of (LOCQUIN), 1905, A., i, 19.
- $\delta$ -Methyl- $\Delta^{\alpha}$ -amylene,  $\beta$ -chloro-** (CLARKE), 1908, A., i, 594.
- $\beta$ -Methyl- $\Delta^{\beta}$ -amylene,  $\epsilon$ -chloro-**, di-bromide (VAN AERDE), 1909, A., i, 79.
- $\delta$ -Methyl- $\Delta^{\beta}$ -amylene** (GORSKY), 1911, A., i, 249.
- $\delta$ -Methyl- $\Delta^{\gamma}$ -amylene,  $\alpha$ -chloro-** (HENRY), 1907, A., i, 106.
- $\alpha$ -Methyl- $\Delta^{\beta}$ -amylene glycol**, preparation of (HENRY), 1907, A., i, 745.
- Methylamylenglyoxaline** (JOWETT), 1903, T., 449; P., 55.
- Methylisoamylethylene glycol** (PRIE-SCHAEFF), 1910, A., i, 86.
- Methylisoamylglycollicacid** (GRIGNARD), 1903, A., i, 31.
- Methylamylglyoxaline, 1:4- or 1:5-**, and its salts (JOWETT), 1903, T., 447; P., 55.
- 1-Methyl-3-isoamylcyclohexane** (MAILHE and MURAT), 1911, A., i, 126.
- 1-Methyl-2-isoamylcyclohexan-2-ol** (MURAT), 1909, A., i, 147.
- 1-Methyl-3-isoamylcyclohexan-3-ol**, and its derivatives (MAILHE and MURAT), 1911, A., i, 126.
- 1-Methyl-3-isoamylcyclohexene** and its nitrosochloride (MAILHE and MURAT), 1911, A., i, 126.
- Methyl isoamyl ketone**, electrolytic reduction of, to isoeptane (TAFEL), 1909, A., i, 766.
- 4-Methyl-3-*n*- and -iso-amylpyrazolones** (LOCQUIN), 1904, A., i, 552.
- 2-Methyl-3-isoamyl-4-quinazolone**, 7-amino-, acetyl derivative (BOGERT, AMEND, and CHAMBERS), 1910, A., i, 895.
- $\alpha$ -Methylanhydroacetonebenzil**, di-morphism of (JAPP and MICHIE), 1903, T., 276; P., 20.
- $\beta$ -Methylanhydroacetonebenzil**, prepara-tion of (JAPP and KNOX), 1905, T., 577.
- Methylanhydroacetonebenzils,  $\alpha$ - and  $\beta$ -**, oxidation products of (JAPP and MICHIE), 1903, T., 279; P., 21.
- Methylanhydrocotarninenitromethane** methiodide (HOPE and ROBINSON), 1911, T., 2120.
- Methylaniline** (*phenylmethylamine*), ab-sorption spectrum of (PURVIS), 1910, T., 1551.

- Methylaniline** (*phenylmethylamine*), latent heat of vaporisation of (LUGININ), 1903, A., ii, 7.  
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- Methylaniline**, 2:4-dibromo-, hydrobromide perbromide (FRIES), 1904, A., i, 571.  
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 4:6-dibromo-2-nitro- and 4:6-dichloro-2-nitro- (BLANKSMA), 1908, A., i, 147.  
 o-bromo-p-nitroso-, and o- and m-chloro-p-nitroso- (FISCHER and NEBER), 1912, A., i, 438.  
 3:4-dichloro-6-nitro- (BLANKSMA), 1903, A., i, 334.  
 ω-cyano-, preparation of (BADISCHE ANILIN- & SODA-FABRIK), 1903, A., i, 336.
- Methylaniline-2-sulphonic acid**, 4-bromo-, and the corresponding chloride and sulphinic acid (CLAASZ), 1911, A., i, 437.
- Methylanilinoozocyanide**. See β-Phenyl-β-methyltriazene, α-cyano-.
- Methylanilindiazobenzene** (VIGNON and SIMONET), 1905, A., i, 494.
- 3-Methyl-6-anilindihydropyrazoquinazalone** (MICHAELIS, KRUG, LEO, and ZIESEL), 1910, A., i, 514.
- 3-Methylanilino-1:1-dimethyl-Δ<sup>3</sup>-cyclohexenylidene-5-cyanoacetic acid**, ethyl ester (CROSSLEY and GILLING), 1910, T., 527.
- 4-Methylanilino-2:6-dimethylnicotinic acid**, ethyl ester (MICHAELIS and HEYDEN), 1909, A., i, 529.
- 5-Methylanilino-1:3-dimethylpyrazole**, and its nitroso-derivative (MICHAELIS and LACHWITZ), 1910, A., i, 642.
- α-Methylanilindiphenylacetomethyl-anilide** (KLINGER), 1912, A., i, 558.
- 3-Methylanilino-1:4-diphenyl-4:5-dihydro-1:2:4-triazole**, 5-hydroxy-, and its additive salts (BUSCH and MEHR-TENS), 1906, A., i, 116.
- 1-Methylanilino-2:5-diphenyl-1:3:4-triazole** and its di-p-bromo-derivative (STOLLÉ), 1907, A., i, 655.
- m*-Methyl-α-anilinoethylbenzene, o-hydroxy- (ANSELMINO), 1907, A., i, 913.
- β-Methylanilinoethyl ethyl ketone** and its picrate and semicarbazone (BLAISE and MAIRE), 1908, A., i, 566.
- 4-Methylanilinolutidine** and its additive salts (MICHAELIS and HILLMANN), 1907, A., i, 726.
- Methylanilino-d-methylenecamphor**, rotatory power of (POPE and READ), 1909, T., 179.
- 1-Methylanilino-5-methyltriazole-4-carboxylic acid**, and its ethyl ester (WOLFF, BOCK, LORENTZ, and TRAPPE), 1903, A., i, 206.
- 5-Methylanilino-1-phenyl-3-methyl-4-antipyrinylpyrazole**. See Anti-ψ-anilopyrine.
- 5-Methylanilino-1-phenyl-3-methylpyrazole**, 4-amino-, 5-p-chloro-, and 5-m- and -p-nitro-, and their derivatives (MICHAELIS and ABRAHAM), 1911, A., i, 1038.
- 5-Methylanilino-1-phenylpyrazole**, and 4-nitroso- (MICHAELIS and WALTER), 1911, A., i, 1039.
- γ-Methylanilino-Δβ-propene-α-al**, β-chloro- (DIECKMANN and PLATZ), 1905, A., i, 117.
- α-Methylanilinopropionamide**, p-nitroso-, and its condensation with benzyl cyanide, p-nitrobenzyl cyanide, and malononitrile (SACHS and KRAFT), 1903, A., i, 335.
- α-Methylanilinopropionitrile** and p-nitroso- (SACHS and KRAFT), 1903, A., i, 335.
- Methyl-γ-anilinopropylcarbinol** and its salts and benzoyl derivative (MARKWALDER), 1907, A., i, 638.
- Methyl γ-anilinopropyl ketone** and its oxime, phenylhydrazone, semicarbazone, benzoyl derivative and anhydride (MARKWALDER), 1907, A., i, 637.

- Methylanilinostyryl phenyl ketone** (ANDRÉ), 1911, A., i, 269.
- Methylanilinosuccinanil** (WARREN and GROSE), 1912, A., ii, 962.
- 5-Methylanilino-1-o- and -p-tolyl-3-methylpyrazole and salts** (MICHAELIS and RISSE), 1911, A., i, 1039.
- 3-Methylanilino-1:4:5-triphenyl-4:5-dihydro-1:2:4-triazole**, 5-hydroxy-, and its methochloride (BUSCH and MEHR-TENS), 1906, A., i, 118.
- 1-Methylanilopyrine**. See 2:5-Anilo-1:2:3-trimethylpyrazole.
- N-Methylanisaldoxime** and its hydrochloride and carbanilido-derivative (BECKMANN and NETSCHER), 1909, A., i, 391.
- hydrate and hydrobromide and hydrate of (SCHEIBER), 1909, A., i, 392.
- N-Methyl-o-anisidine** and nitroso- (KÖNIG and BECKER), 1912, A., i, 495.
- Methyl-p-anisidine** (FRÖHLICH and WEDEKIND), 1907, A., i, 410.
- and its N-nitro-, and N-nitroso-derivatives (REVERDIN), 1911, A., i, 124.
- Methyl-p-anisidine, 2:3-, 2:5-, and 3:5-dinitro-** (REVERDIN and DE LUC), 1911, A., i, 965.
- Methylanisyl-o-diketone**, mono- and 1:2-di-oximes of (WIELAND), 1903, A., i, 837.
- 1-Methylanthrancene** and its picrate (FISCHER and SAPPER), 1911, A., i, 280.
- from emodin from aloes (OESTERLE and TISZA), 1908, A., i, 905.
- 1-Methylanthrancene**, 4-chloro- (FISCHER and SAPPER), 1911, A., i, 280.
- 1-chlorohydroxy- (FISCHER and ZIEGLER), 1912, A., i, 754.
- tetrahydroxy- (KRASOWSKY), 1909, A., ii, 175.
- 2-Methylanthrancene** from emodin from Frangula (OESTERLE and TISZA), 1904, A., i, 350.
- from ditolyl-methane or -ethane, and 9:10-di-bromo- (FISCHER), 1909, A., i, 563.
- 2-Methylanthrancene**, hydroxy-, iodo-hydriodo-derivatives (LIEBERMANN and MAMLOCK), 1905, A., i, 531.
- trihydroxy- (BARROWCLIFF and TUTIN), 1907, T., 1913; P., 249.
- iso***Methylanthrancene** from Westphalian coal tar (BÖRNSTEIN), 1906, A., i, 414.
- 2-Methylanthrancene-10-carboxylic acid** (LIEBERMANN and BUTESCU), 1912, A., i, 467.
- Methylanthranel** (BRÜHL; BAMBERGER and ELGER), 1904, A., i, 93; (BAMBERGER and LUBLIN), 1909, A., i, 509.
- and its dichloride and salts, and chloro-derivative (CAMPS), 1903, A., i, 33; (BAMBERGER and ELGER), 1903, A., i, 561.
- homology of anthranil with (SCHEIBER), 1911, A., i, 915.
- Heller's, physical constants of (SCHMIDT), 1905, A., i, 213.
- Methylanthranelic acid**, (o-methylaminobenzoic acid) methyl ester (SCHROETER and EISLER), 1909, A., i, 578.
- from the leaves of *Citrus madurensis* (CHARABOT), 1903, A., i, 47.
- physical constants of (SCHMIDT), 1905, A., i, 213.
- phenyl ester (HOUBEN and KELLNER), 1909, A., i, 795.
- Methylanthranelic acid**, 3- and 5-amino-, hydrochlorides of, and 5-chloro- (KELLER), 1908, A., i, 284.
- 4-bromo- (ETTINGER and FRIEDLÄNDER), 1912, A., i, 729.
- dibromo- $\omega$ -cyano-, dichloro- $\omega$ -cyano-, and tetrachloro- $\omega$ -cyano- (BADISCHE ANILIN- & SODA-FABRIK), 1910, A., i, 382.
- $\omega$ -cyano- (phenylglycine-o-carboxylic acid, nitrile of) (BADISCHE ANILIN- & SODA-FABRIK), 1903, A., i, 336.
- bromo-, and mono- and di-chloro- (BADISCHE ANILIN- & SODA-FABRIK), 1904, A., i, 670.
- preparation of (BADISCHE ANILIN- & SODA-FABRIK), 1905, A., i, 645.
- 3-hydroxy-, and its hydrochloride (KELLER), 1908, A., i, 284.
- 4-iodo- (WHEELER and JOHNS), 1910, A., i, 843.
- 3:5-dinitro- (ULLMANN and ENGI), 1909, A., i, 473.
- 5-nitroso- (HOUBEN and BRASSERT), 1908, A., i, 27.
- pyridine salt of (HOUBEN and ARENDT), 1911, A., i, 129.
- esters of (HOUBEN, BRASSERT, and ETTINGER), 1909, A., i, 646; (HOUBEN and KELLNER), 1909, A., i, 795.
- Methylanthranol**. See 1-Methylanthrancene, hydroxy-.
- 2-Methylanthrappyrone**, preparation of (BADISCHE ANILIN- & SODA-FABRIK), 1909, A., i, 835.



**1- $\mu$ -Methylanthyrapyrimidine, 2-bromo-4-amino-** (FARBENFABRIKEN VORM. F. BAYER & Co.), 1911, A., i, 167.

**Methylanthraquinone**, side-chain halogen substituted (ISLER), 1909, A., i, 811.

**Methylanthraquinone, dibromo-** (FISCHER), 1909, A., i, 563.

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*di*hydroxy-derivatives. See Morinda-di-ol and Soranjidiol.

*tri*hydroxy-. See Nataloe-emodin. monomethyl ether, and its diacetyl derivative from the wood of *Morinda citrifolia* (OESTERLE), 1907, A., ii, 644.

**1-Methylanthraquinone, 2- and 4-chloro-** (HELLER and SCHÜLKE), 1908, A., i, 995.

5:8-*di*chloro-4-hydroxy-, and its acetyl derivative (WALSH and WEIZMANN), 1910, T., 690.

2-hydroxy- and nitro-2-hydroxy-, and their methyl ethers (BENTLEY, GARDNER, and WEIZMANN), 1907, T., 1631.

4-hydroxy-, and its methyl ether (BENTLEY, GARDNER, WEIZMANN, and ANDREW), 1907, T., 1633.

4 6(7)-*di*hydroxy- (BENTLEY, GARDNER, and WEIZMANN), 1907, T., 1639.

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**2-Methylanthraquinone, 5(8)- and 6(7)-amino-** (BADISCHE ANILIN- & SODA-FABRIK), 1911, A., i, 885.

1:3-*di*amino-, and 1:3(7)-*tri*amino- (BADISCHE ANILIN- & SODA-FABRIK), 1909, A., i, 243.

2-bromo- (HELLER, GRÜNTAL, and RUHTENBERG), 1912, A., i, 358.

bromo-, *di*bromo-, chloro-, and *di*-chloro- (BADISCHE ANILIN- & SODA-FABRIK), 1910, A., i, 325.

bromoamino- and chloroamino-derivatives (BADISCHE ANILIN- & SODA-FABRIK), 1903, A., i, 498.

1- and 4-hydroxy-, and their potassium salts (BENTLEY, GARDNER, and WEIZMANN), 1907, T., 1635.

4:7(8)-*di*hydroxy- (BENTLEY, GARDNER, and WEIZMANN), 1907, T., 1638.

**2-Methylanthraquinone, trihydroxy-**. See Emodin.

3:6:7-*tri*hydroxy-. See Emodin from Frangula.

1-iodo- (SCHOLL, HOLDERMANN, KUNZ, and MANSFELD), 1907, A., i, 540.

1-thiocyano- (FARBENFABRIKEN VORM. F. BAYER & Co.), 1910, A., i, 338; (GATTERMANN), 1912, A., i, 999.

1-(or 2)-**Methylanthraquinone, 5:8-*di*-chloro-2-(or 1-)hydroxy-** (WALSH and WEIZMANN), 1910, T., 691.

**Methylanthraquinoneacridone** (ULLMANN), 1910, A., i, 697.

**1:2-Methylanthraquinoneiminazole** (FARBENFABRIKEN VORM. F. BAYER & Co.), 1912, A., i, 141.

**Methyl- $\alpha$ -anthraquinonyl sulphide and sulphoxide** (FRIES and ENGELBERTZ), 1912, A., i, 1006.

**Methyl-1-anthraquinonylbenziminazole** (ULLMANN and FODOR), 1911, A., i, 468.

**2-Methylanthraquino-1-thiazole** (GATTERMANN), 1912, A., i, 1005.

**2-Methylanthraquino-1-thiophen and its carboxylic acid** (GATTERMANN), 1912, A., i, 1004.

**2-Methyl-1-anthrathiazole** (FARBENFABRIKEN VORM. F. BAYER & Co.), 1910, A., i, 338.

**4-Methyl-3-antipyrine and its salts** (MICHAELIS and DREWS), 1907, A., i, 157.

**Methylarabinosides,  $\alpha$ - and  $\beta$ -**, methylation of (PURDIE and ROSE), 1906, T., 1207; P., 201.

**Methyl-*d*-arabonolactone,  $\alpha$ -hydroxy-**, and its phenylhydrazide, and brucine and calcium salts (SPOEHR), 1910, A., i, 221.

**Methylarbutin**, properties, distinction and detection in plants of arbutin and (BOURQUELOT and FICHTENHOLZ), 1910, A., i, 273.

**Methylarsine** (AUGER), 1904, A., i, 724.

*di*iodide and oxide, estimation of (BOUGAULT), 1907, A., ii, 916.

**Methylarsinic acid and its salts** (D'EMILIO), 1903, A., ii, 252.

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- Methylarsinic acid**, action of, on antimony trichloride, and its antimony salt (BARTHE and MINET), 1909, A., i, 560.  
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- Methylarsinic acid**, diiodo- (AUGER), 1908, A., i, 13.
- Methylaspartic acid**, ethyl ester (ZELINSKY, ANNEKOFF, and KULIKOFF), 1911, A., i, 773.
- l-Methylaspartic acid**, synthesis of (LUTZ), 1910, A., i, 230.
- Methylated spirit**, composition of (THORPE and HOLMES), 1904, T., 4.  
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- Methylatronic acid**, action of bromine on (FITTIG and SCHEEN), 1904, A., i, 555.
- Methylation** in the ethylene derivatives from the point of view of volatility (HENRY), 1908, A., i, 752.  
 of hydrogen atoms attached to nitrogen by means of formaldehyde (ESCHWEILER; KOEPFEN), 1905, A., i, 328.
- Methylatropic acid**. See  $\alpha$ -Phenylcrotonic acid.
- Methylatropinium**, salts of (GERBER), 1911, A., i, 152.  
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- Methylatropinumsulphuric acid** (HOFFMANN, LA ROCHE & Co.), 1912, A., i, 897.
- Methylauramine** and its salts and iodides (ZOHLEN), 1903, A., i, 119.
- Methylazaurolic acid** and its metallic salts (WIELAND and HESS), 1909, A., i, 883.
- Methylaziminobenzoic acid** (KELLER), 1908, A., i, 284.
- 5-Methylaziminolecarboxylic acid** and its ethyl ester (WOLFF, BOCK, LORENTZ, and TRAPPE), 1903, A., i, 207.
- Methylazoimide** (DIMROTH and WISLICHENUS), 1905, A., i, 422.
- Methylisoxazoxide**, sodium salt of, (THIELE), 1910, A., i, 889.
- Methylbaptigenetin** and its acetylation (GORTER), 1908, A., i, 98.
- 3-Methylbarbituric acid** and 4-imino- (CONRAD), 1905, A., i, 751.
- 5-Methylbarbituric acid** (FISCHER), 1905, A., i, 122.  
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- p-Methylbenzaldazine** (PASCAL and NORMAND), 1912, A., i, 146.
- Methylbenzaldehydes**. See Tolualdehydes.
- N-Methylbenzaldoxime** hydriodides (BECKMANN, EBERT, NETSCHER, and SCHULZ), 1909, A., i, 654.  
 hydrobromide and hydrate of, and hydrochloride and hydrate of (SCHEIBER), 1909, A., i, 392.
- N-Methylbenzaldoxime**, p-hydroxy- (BECKMANN and NETSCHER), 1909, A., i, 391.
- 3-Methylbenzaldoxime**, 2-amino- (MAYER), 1912, A., i, 478.
- Methylbenzamide**, and its compound with  $\beta$ -naphthol and hydrochloric acid (EINHORN), 1905, A., i, 344, 345, 646.
- 4-Methyl-1:2-benzanthraquinone**, 3-amino-, 3-hydroxy-, and 3-iodo- (SCHOLL, NEUBERGER, TRITSCH, and POTSCHWAUSCHEG), 1912, A., i, 564.
- 5-Methyl-1:2-benzanthraquinone**, and 5-bromo-, 1-nitro-, and 1-nitro-5-bromo- (SCHOLL and TRITSCH), 1912, A., i, 36.
- Methylbenzanthrone** (SCHOLL), 1912, A., i, 196.  
 preparation of (BADISCHE ANILIN- & SODA-FABRIK), 1908, A., i, 993.
- Methylbenzanthrone**, nitro- (BADISCHE ANILIN- & SODA-FABRIK), 1912, A., i, 475.
- p-Methylbenzhydriyl-acetyl-** and -benzoyl-acetones (FOSSE), 1908, A., i, 86.
- Methylbenzhydriylamine** and its hydrochloride and nitrate (BUSCH and LEEFHELM), 1908, A., i, 153.
- N-Methylbenzidine** and its salts and derivatives (RASSOW and BERGER), 1911, A., i, 821.
- 3-Methylbenzil**, 4-hydroxy- (BLAU), 1905, A., i, 905.
- Methylbenziminazole**, 4-chloro- (ULLMANN and MAUTHNER), 1904, A., i, 192.
- 1-Methylbenziminazole** and its salts (FISCHER and VIEL), 1905, A., i, 245.
- 1-Methylbenziminazole**, 6-nitro-, and its salts and its isomeride (FISCHER and HESS), 1904, A., i, 195.

- 2-Methylbenziminazole** (BORSCHÉ and RANTSCHÉFF), 1911, A., i, 330.  
bromo-derivatives, and their salts (BACZYŃSKI and v. NIEMENTOWSKI), 1903, A., i, 124.  
oxide, and its salts (v. NIEMENTOWSKI), 1911, A., i, 85.
- 2-Methylbenziminazole**, 4:6-*di-* and *tetra-*bromo-, phthalones of (BACZYŃSKI and v. NIEMENTOWSKI), 1903, A., i, 126.  
6-chloro- and 6-chloronitro-, and its salts (FISCHER and LIMMER), 1906, A., i, 895.  
cyano- (BOGERT and WISE), 1912, A., i, 451.  
nitro-, yellow sulphur dye from (CHEMISCHE FABRIKEN VORM. WEILER-TER-MEER), 1905, A., i, 552.
- 1-Methylbenziminazole-2-benzoic acid**, methyl and ethyl esters, and their methiodides (RUPE and THIESS), 1910, A., i, 72.
- 2-Methylbenziminazole-5-carboxylic acid**, esters and hydrochloride of (EINHORN and UHLFELDER), 1910, A., i, 173.
- 5-Methylbenziminazolone** (ELBS and SCHUSTER), 1911, A., i, 192.
- N*-**Methylbenziminio-ethers** (LANDER), 1903, T., 324; P., 16.
- 5-Methylbenzobis-3-pyrazolone**, and 4-bromo- (MICHAELIS and KÄDING), 1910, A., i, 516.
- 5-Methylbenzocyclobutadiene**, 6-amino- (NASTUKOFF and KRONEBERG), 1912, A., i, 962.
- 1-Methylbenzofulvenecarboxylic acid** (THIELE and RÜDIGER), 1906, A., i, 588.
- Methylbenzocycloheptadiene** (THIELE and WEITZ), 1910, A., i, 854.
- Methylbenzoic acid**. See Toluic acid.
- 2-Methylbenzoic acid**, 4:6-*di*hydroxy-. See Orcinolcarboxylic acid.
- 4-Methylbenzoic acid**, 2:6-*di*hydroxy-. See Orsellinic acid.
- 6-Methyl-1:2:3:7:9-benzopentazole**, 4-hydroxy-, and its salts (BÜLOW), 1910, A., i, 81.
- Methylbenzophenones**. See Phenyl tolyl ketones.
- 1-Methylbenzopyrazolone** (MILRATH), 1908, A., i, 1014.
- 4-Methyl-1:2-benzopyrone-3-benzoyl-o-carboxylic acid** (4-methyl-1:2-benzopyrone-3-*o*-phthalaldehydic acid), 7-hydroxy-, and its acetate, and 5:7- and 7:8-*di*hydroxy- (BÜLOW and SIEBERT), 1905, A., i, 294.
- 4-Methyl-1:2-benzopyrone-3-o-benzyl-carboxylic acid**, 7-hydroxy-, and its acetate, and 5:7- and 7:8-*di*hydroxy- (BÜLOW and SIEBERT), 1905, A., i, 295.
- 2-Methylbenzopyronium** and its salts (DECKER and v. FELLEBERG), 1907, A., i, 1064.
- Methylbenzoquinones**. See Toluquinones.
- Methylbenzoquinonitrole**, chloro-derivatives of (ZINCKE, SCHNEIDER, and EMMERICH), 1903, A., i, 757.
- 5-Methyl-1:2:4:9-benzotetrazole**, and 7-chloro-, and 7-hydroxy-, and their derivatives (BÜLOW and HAAS), 1910, A., i, 595.
- 5-Methyl-1:2:4:9-benzotetrazole**, 7-hydroxy- (BÜLOW and WEBER), 1909, A., i, 615.  
7-thiol (BÜLOW and HAAS), 1910, A., i, 595.
- 2-Methyl-1:3:7:9-benzotetrazole** (2-methyl-1:3-triazo-7:0'-pyrimidine), derivatives of (BÜLOW and HAAS), 1910, A., i, 203.
- 6-Methyl-1:3:7:9-benzotetrazole**, 4-hydroxy-, and its salts (BÜLOW and HAAS), 1910, A., i, 80.
- 7-Methylbenzotetron-3-carboxylanilide**, -phenetide and -phenylhydrazides. See 7-Methylcoumarin-3-carboxylanilide, -phenetide, and phenylhydrazides, 4-hydroxy-.
- 7-Methylbenzotetron-3-ethylcarboxylamide**. See 7-Methylcoumarin-3-ethylcarboxylamide, 4-hydroxy-.
- 3-Methylbenzotetronic acid**. See 8-Methylcoumarin, 4-hydroxy-.
- 7-Methylbenzotetronyl bromide**. See 7-Methylcoumarin, 4-bromo-.
- 1-Methylbenzothiazole**, 4-amino-, *N*-acetyl derivative of (MÜLLER), 1907, A., i, 89.
- 2-Methylbenzothiazoline**, 1-imino-, nitroso-derivative of (BESTHORN), 1910, A., i, 508.
- 2-Methylbenzothiazolone**, and its derivatives (BESTHORN), 1910, A., i, 508.
- 5-Methyl-1:2:3-benzotriazole**, 1-acyl derivatives (FICHTER, PREISWERK, and ROSENBERGER), 1907, A., i, 84.
- 6-Methyl-1:2:3-benzotriazole**, 1-crotonyl derivative (FICHTER and PREISWERK), 1907, A., i, 84.
- 3-Methyl-2:4-benzoxazine** (AUWERS), 1904, A., i, 581.
- 1-Methylbenzoxazole**, 5-hydroxy- (HENRICH and WAGNER), 1903, A., i, 89.
- 2-Methylbenzoxazolone** (BAMBERGER and PYMAN), 1909, A., i, 575.



**Methylbenzoylacetone.** See  $\alpha$ -Phenyl- $\beta$ -methylbutane- $\alpha$ - $\gamma$ -dione.

**Methylbenzoylbenzoic acids.** See Toluoylbenzoic acids.

*m*-**Methylbenzoylcarbinol** and its semicarbazone, acetate, and chloride (AUWERS), 1906, A., i, 963.

**Methylbenzoylformic acid.** See Tolyglyoxylic acid.

**Methyl benzoylmethylaminobutyl ketone** (LIPP and WIDMANN), 1905, A., i, 662.

**Methyl- $\beta$ -benzylaminoisobutylcarbinol** and its additive salts and nitroso-derivative (KOHN), 1907, A., i, 693.

*o*-, *m*-, and *p*-**Methylbenzylanilines** and their hydrochlorides (LAW), 1912, T., 158.

**1-*p*-Methylbenzyl-2:3-dimethyl-5-pyrazolone** (CURTIUS and SPRENGER), 1912, A., i, 139.

**Methylbenzyl ethyl ketone** and its semicarbazone (TIFFENEAU), 1907, A., i, 406.

**4-*p*-Methylbenzylfluorene** (PICK), 1905, A., i, 68.

**Methylbenzylidene.** See Tolylidene.

**$\beta$ -Methyl- $\gamma$ -benzylidenebutiric acid**,  $\beta$ -hydroxy-, ethyl ester (KÖHLER and HERITAGE), 1910, A., i, 485.

*p*-**Methylbenzylidene- $\alpha\alpha'$ -lutidine.** See 2-*p*-Methyl-*p*-styryl-6-methylpyridine.

**3-Methyl-4-benzylidenepyrazolone-1-carbamidine** and oximino- (SCHESTAKOFF and KAZAKOFF), 1912, A., i, 1032.

**Methyl- $\beta$ -benzylmethylaminoisobutylcarbinol** and its additive salts (KOHN and SCHLEGL), 1907, A., i, 683.

**1-*p*-Methylbenzyl-3 methyl-5-pyrazolone**, hydrochloride and 4-oximino- (CURTIUS and SPRENGER), 1912, A., i, 139.

**4-*p*-Methylbenzylisoquinoline** and its salts (RÜGHEIMER and ALBRECHT), 1903, A., i, 439.

*p*-**Methylbenzylsemicarbazide** and its derivatives and nitroso- (KESSLER and RUPE), 1912, A., i, 219.

*m*-**Methylbenzyl-*p*-toluidine**, 6-amino-, derivatives of (v. WALTHER and BAMBERG), 1905, A., i, 298; 1906, A., i, 385.

6-hydroxy-, and its pierate (v. WALTHER and BAMBERG), 1905, A., i, 299.

**$\alpha$ -Methylberberine salts** (FREUND and MAYER), 1907, A., i, 633.

**C-Methylbindone** (HANTZSCH and ZORTMAN), 1912, A., i, 872.

**1-Methylbrazanquinone**, 3-hydroxy- (GRAFMAN and v. KOSTANECKI), 1909, A., i, 250.

**Methyl- $\gamma$ -bromoallylacetacetic acid**, ethyl ester (GARDNER and PERKIN), 1907, T., 853; P., 116.

**Methyl- $\gamma$ -bromoallylmalonic acid**, ethyl ester (PERKIN and SIMONSEN), 1907, T., 830.

**Methyl  $\beta$ -bromoisobutyl ketone** and its semicarbazone (RUPE and KESSLER), 1910, A., i, 93.

**Methylbromocamphor** (MINGUIN), 1903, A., i, 428.

**Methylbromocoumalic acid**, action of 1-amino-1:3:4-triazole and its 2:5-substitution products on (BÜLOW and WEBER), 1909, A., i, 613.

**Methylbromoethylamine hydrobromide** (KNORR and MEYER), 1905, A., i, 748.

**2-Methyl-6-bromoethylpyridine** and its salts (LÖFFLER and THIEL), 1909, A., i, 182.

**$\beta$ -Methyl- $\alpha$ -bromomethylbutyric acid**,  $\alpha$ -bromo- (BLAISE and LUTTRINGER), 1905, A., i, 628.

**4-Methyl-2 bromomethylcoumarone**, 1:6-dibromo- (FRIES and MOSKOPF), 1910, A., i, 334.

**5-Methyl-2-bromomethylcoumarone**, 1:4:6-tribromo- (FRIES and VOLK), 1910, A., i, 333.

**4-Methyl-5-bromomethyldihydrouracil**, 4-bromo-5-hydroxy- (KIRCHER), 1912, A., i, 54.

*d*- and *l*-**1-Methyl-4-bromomethylene-cyclohexane**, rotatory power of (PERKIN and POPE), 1911, T., 1523.

**$\beta$ -Methyl- $\alpha$ -bromomethylenehydantoin** (GABRIEL), 1906, A., i, 636.

**1-Methyl- $\alpha$ -bromomethyl-3-ethylbenzene**,  $\alpha$ : $\beta$ : $\beta$ :5-tetrabromo-4-hydroxy-, and its acetate (FRIES and MOSKOPF), 1910, A., i, 334.

**1-Methyl- $\alpha$ -bromomethyl-4-ethylbenzene**,  $\alpha$ : $\beta$ : $\beta$ :2:6-pentabromo-3-hydroxy- (FRIES and VOLK), 1910, A., i, 333.

**1-Methyl-4-bromomethyleyclohexane**, 4-bromo- (PERKIN and POPE), 1911, T., 1523.

**3-Methyl- $\alpha$ -bromomethylstyrene**,  $\beta$ :5-dibromo- $\beta$ -iodo-6-hydroxy-, and  $\beta$ : $\beta$ :5-tribromo-6-hydroxy-, and its acetate (FRIES and MOSKOPF), 1910, A., i, 334.

**4-Methyl- $\alpha$ -bromomethylstyrene**,  $\beta$ :3:5-tribromo- $\beta$ -iodo-2-hydroxy-, and  $\beta$ : $\beta$ :3:5-tetrabromo-2-hydroxy- (FRIES and VOLK), 1910, A., i, 333.

**N-Methylbromoiso-papaverine** (DECKER and GIRARD), 1904, A., i, 1045.

**1-Methyl-4- $\alpha$ - $\beta$ -dibromopropylbenzene** and its nitrosochloride (KUNCKELL and DETTMAR), 1912, A., i, 432.

- Methyl  $\gamma$ -bromopropyl ketone**, action of aniline and *p*-toluidine on (MARK-WALDER), 1907, A., i, 637.
- Methyl- $\beta$ -bromopropylketoxime** and its derivatives (SCHMIDT and LEIPRAND), 1904, A., i, 278.
- Methylbrucine**, acetyl derivative of (LEUCHS and ANDERSON), 1911, A., i, 1018.
- acetate (MOSSLER), 1912, A., i, 297.
- $\alpha$ -Methylbutaldehyde** (*methylethylacetaldehyde*) and its derivatives (NEUSTÄDTER), 1907, A., i, 14.
- $\alpha$ -Methylbutaldehyde,  $\beta$ -hydroxy-**, action of organo-magnesium compounds on (ABELMANN), 1909, A., i, 547.
- $\beta$ -Methylbutane**. See *isopentane*.
- Methylcyclobutane**,  $\omega$ -amino-, action of nitrous acid on (DEMJANOFF and LUSCHNIKOFF), 1903, A., i, 403.
- $\omega$ -hydroxy- (*cyclobutylcarbinol*) and its isomerisation to pentamethylene derivatives (DEMJANOFF), 1908, A., i, 85; 1910, A., i, 838.
- $\beta$ -Methylbutane- $\alpha$ -al**. See *d*-Valeraldehyde.
- $\beta$ -Methylbutane- $\alpha\beta$ -diol** ( *$\beta$ -methylbutylene- $\alpha\beta$ -glycol*), preparation of (HENRY), 1907, A., i, 745.
- $\beta$ -Methyl- $\Delta\alpha$ -buten- $\gamma$ -ol** (FARBENFABRIKEN VORM. F. BAYER & Co.), 1911, A., i, 598.
- $\beta$ -Methyl- $\Delta\alpha$ -buten- $\gamma$ -one** (FARBENFABRIKEN VORM. F. BAYER & Co.), 1912, A., i, 414.
- 1-Methyl-4- $\alpha$ -butenylbenzene** (KUNCKELL), 1903, A., i, 617.
- Methylisobutenyl ketone**. See *Mesityl oxide*.
- 8-Methyl-2- $\Delta\alpha$ - and -2-*iso*-butenylquinolines** and their additive salts (HOFFMANN), 1906, A., i, 41.
- Methyl- $\Delta\gamma$ -butinone ketone** and its oxime and semicarbazone (GARDNER and PERKIN), 1907, T., 851; P., 116.
- density, magnetic rotation, and refractive power of (PERKIN), 1907, T., 852.
- $\beta$ -Methylbutyl alcohol**,  $\alpha\beta$  dibromo- (COURTOT), 1906, A., i, 789.
- Methylbutylacetic acid**. See  $\alpha$ -Methylhexoic acid.
- $\alpha$ -Methylisobutylacetic acid**. See  $\alpha$ -Methylisohexoic acid.
- Methylisobutylallylcarbinol** and its acetate (MARCO), 1904, A., i, 612.
- Methylisobutylisoallylcarbinol**. See  $\delta\zeta$ -Dimethyl- $\Delta\beta$  hepten- $\delta$ -ol.
- 1-Methyl-5-*isobutyl*-3-allyl- $\Delta^1$ -cyclohexen-3-ol** (MATSCHEVITSCH), 1911, A., i, 962.
- Methyltert.-butylamine** and its salts and nitroso-derivative (SABATIER and MAILHE), 1907, A., i, 490.
- $\delta$ -Methyl- $\beta$ -isobutylamylamine** and its carbamide and phenylcarbamide (FREYRON), 1910, A., i, 296.
- N*-Methylbutylaniline** (FRÖHLICH and WEDEKIND), 1907, A., i, 512.
- N*-Methylisobutylaniline** (THOMAS and JONES), 1906, T., 292.
- N*-Methylisobutylaniline**, *p*-bromo-, and its salts (HILL), 1907, A., i, 692.
- $\alpha$ -Methylbutylbenzene** (*sec.-amylbenzene*) (KLAGES and HAHN), 1903, A., i, 20.
- and its derivatives (KLAGES), 1904, A., i, 27.
- $\gamma$ -Methylbutylbenzene**,  $\gamma$ -hydroxy-, and its phenylurethane (KLAGES), 1904, A., i, 569.
- 3-Methyl-5-tert.-butylbenzoic acid** and its salts and ethyl ester (KONOWALOFF and ORLOFF), 1904, A., i, 499.
- Methyltert.-butylbenzoylacrylic acids** (KOZAK), 1907, A., i, 403.
- Methyl-*n*-butylcarbinol**, hydrogen succinate of (PICKARD and KENYON), 1911, T., 59.
- d*-Methyl-*n*-butylcarbinol**, and its salts (PICKARD and KENYON), 1911, T., 60, 65.
- Methylisobutylcarbinol** and its iodide (CLARKE and SHREVE), 1906, A., i, 473.
- formation of (GUERBET), 1909, A., i, 690.
- hydrogen succinate of (PICKARD and KENYON), 1911, T., 59.
- d*- and *l*-Methylisobutylcarbinol** and their derivatives (PICKARD and KENYON), 1911, T., 60.
- Methyltert.-butylcarbinol** (*sec.-pinacolyl alcohol*) and its acetate, bromide, and urethane (DELACRE), 1907, A., i, 459, 579.
- action of acetyl chloride on (HENRY), 1906, A., i, 329; (DELACRE), 1906, A., i, 551.
- Methylcyclobutylcarbinol** and its phenylurethane (ZELINSKY and GUTT), 1908, A., i, 618.
- $\beta$ -Methyl- $\Delta\alpha$ -butylene** (*as-methylethyl-ethylene*), formation of (WALKER and WOOD), 1906, T., 603; P., 104.
- additive power of (BRUNEL and PROBECK), 1910, A., i, 805.
- $\alpha$ -chlorohydrin (FOURNEAU and TIFENEAU), 1907, A., i, 818.
- $\alpha\beta$  oxide (RIEDEL), 1908, A., i, 956.
- $\beta$ -Methyl- $\Delta\beta$ -butylene** (*trimethylethylene*), and its dibromide (BLAISE and COURTOT), 1906, A., i, 793.

- $\beta$ -Methyl- $\Delta\beta$ -butylene** (*trimethylethylene*), fixation of methyl alcohol on (REYCHLER), 1907, A., i, 275.  
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 $\alpha$ -chlorohydrin (FOURNEAU and TIFENEAU), 1907, A., i, 818.  
 $\beta\gamma$ -glycol (CIAMICIAN and SILBER), 1911, A., i, 514, 650.  
nitrosite (SCHMIDT), 1903, A., i, 3;  
(HANTZSCH), 1903, A., i, 61.  
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- $\beta$ -Methyl- $\Delta\beta$ -butylene**,  $\gamma$ -bromo- (SCHMIDT and AUSTIN), 1903, A., i, 597.  
 $\gamma$ -nitroso-, polymeric (SCHMIDT and LEIPFRAND), 1904, A., i, 279.
- Methyl-*n*- and -isobutylglutaconimides**, cyano-, ammonium derivatives of (GUARESCHI), 1905, A., i, 822.
- 1-Methyl-4-*tert*.-butylcyclohexanecetic acid** and its ethyl ester and chloride, and hydroxy- (DARZENS and ROST), 1911, A., i, 989.
- 1-Methyl-3-isobutylcyclohexan-3-ol** (MAILHE and MURAT), 1911, A., i, 126.
- 1-Methyl-2-*tert*.-butylcyclohexan-2-ol** (MURAT), 1909, A., i, 147.
- $\epsilon$ -Methyl- $\gamma$ -isobutylhexan- $\beta$ -one**, and its oxime and semicarbazone (FREYLN), 1910, A., i, 359.
- 1-Methyl-3-*tert*.-butylcyclohexan-6-one** (DARZENS and ROST), 1911, A., i, 290.
- Methyl butyl ketone** (*propylacetone*), semicarbazone of (BOUVEAULT and LOCQUIN), 1905, A., i, 18.
- Methyl butyl ketone**, isonitroso- (KNORR and HESS), 1911, A., i, 1019.
- Methyl isobutyl ketone** (*isopropylacetone*) (CLARKE and SHREVE), 1906, A., i, 473.  
its polymeride and semicarbazone (GRIGNARD), 1903, A., i, 141.  
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- Methyl *tert*.-butyl ketone**. See Pinacolin.
- Methyl cyclobutyl ketone** and its semicarbazone (ZELINSKY and GUTT), 1908, A., i, 618.
- $\alpha$ -Methylbutylmalonamic acid** (FARBEN-FABRIKEN VORM. F. BAYER & Co.), 1911, A., i, 259.
- Methylbutylmalonic acid** and its esters (ROSETTI), 1905, A., i, 561.
- Methylbutylmalonic acid**,  $\delta$ -cyano- (BEST and THORPE), 1909, T., 706.
- Methyl *tert*.-butyl dinitromethane** (SCHOLL, WEIL, and HOLDERMANN), 1905, A., i, 182.
- 5-Methyl-3-*tert*.-butylisooxazole** and its phenylhydrazone (COUTURIER), 1910, A., i, 362.
- $\delta$ -Methyl- $\beta$ -isobutylpentanol**, pyruvate and its semicarbazone and phenylurethane (FREYLN), 1910, A., i, 359.
- Methylisobutylpinacone** (CLARKE and SHREVE), 1906, A., i, 473.
- 3-Methyl-4-*sec*.-butyl-5-pyrazolone** (LOCQUIN), 1906, A., i, 928.
- Methylisobutyluracil** (BÜCKENDORFF), 1912, A., i, 55.
- $\gamma$ -Methyl- $\alpha$ -isobutylvaleric acid**, derivatives of (FREYLN), 1910, A., i, 353.  
 $\alpha$ -cyano-, and its ethyl ester (FREYLN), 1910, A., i, 296.
- $\alpha$ -Methyl- $\delta$ -*n*-butylvalerolactone**, hydrazine compound of (BLAISE and LUTTRINGER), 1905, A., i, 330.
- $\gamma$ -Methyl- $\alpha$ -isobutylvaleronitrile** (FREYLN), 1910, A., i, 296.
- 3-Methyl-8-isobutylxanthine** (TRAUBE and NITHAACK), 1906, A., i, 215.
- $\alpha$ -Methylbutyric acid** (*methylethylacetic acid*; *hydrotiglic acid*) and its esters and nitrile (NEUSTÄDTER), 1907, A., i, 15.
- Marckwald's asymmetric synthesis of (TYMSTRA), 1905, A., i, 257.
- $\alpha$ -Methylbutyric acid**,  $\alpha$ -amino-, and its salts (V. GULEWITSCH and WASMUS), 1906, A., i, 409.  
 $\alpha$ -chloroacetyl and  $\alpha$ -glycyl derivatives (ROSENMÜND), 1910, A., i, 68.
- l*- $\alpha$ -amino-** (*isovaline*) (EHRlich and WENDEL), 1908, A., i, 269.
- $\beta$ -mono- and  $\alpha\beta$ -di-bromo- and  $\beta$ -iodo-** (BLAISE and LUTTRINGER), 1905, A., i, 627.
- $\alpha$ -cyano-, and its ethyl ester (HENLE and HAAKH), 1909, A., i, 7.
- $\alpha$ -hydroxy-, 1-phenyl-2:3-dimethyl-5-pyrazolone ester (RIEDEL), 1910, A., i, 434.
- $\beta$ -hydroxy-, phenylurethane of (BLAISE and HERMAN), 1910, A., i, 534.
- $\alpha$ - and  $\beta$ -Methylbutyric acids**, menthyl esters (RUPE and BUSOLT), 1909, A., i, 928.
- $\alpha$ -Methylbutyrolactone**, hydrazine compound of (BLANC), 1905, A., i, 681.
- $\gamma$ -Methylbutyrolactone**, hydrazine compound of (BLAISE and LUTTRINGER), 1905, A., i, 329.
- $\alpha$ -Methylbutyronitrile**,  $\alpha$ -hydroxy- (ULTÉE), 1906, A., i, 6.
- 3-Methyl-*n*-butyrophene**, 6-hydroxy- and its ethyl ether (AUWERS), 1904, A., i, 66.



- Methylbutyrylacetoacetic acid**, esters (BOUVEAULT and BONGERT), 1903, A., i, 145.
- Methylbutyrylacetone** and its copper derivative (BOUVEAULT and BONGERT), 1903, A., i, 142.
- $\alpha$ -**Methylbutyrylcarbamide** (FISCHER and DILTHEY), 1905, A., i, 38.
- $\beta$ -**Methylbutyrylcarbamide** (GEBRÜDER VON NIESSEN), 1903, A., i, 798.
- $\beta$ -**Methylbutyrylphenyl-hydrazide** and -**methylhydrazide** (SCHWARZ), 1903, A., i, 853.
- 8-Methylcaffeine**, *mono*-, *di*-, and *tri*-chloro- (BOEHRINGER & SÖHNE), 1904, A., i, 340.
- 1-Methylcaffolide** (BILTZ and TOPP), 1911, A., i, 692.
- Methylcamphenilol** (MOYCHO and ZIENKOWSKI), 1905, A., i, 712.  
reactions of (BOUVEAULT and BLANC), 1905, A., i, 222; (MOYCHO and ZIENKOWSKI), 1905, A., i, 654.
- Methylcamphoformeneamine** and its **carboxylic acid**, methylamine salt (TINGLE and HOFFMANN), 1905, A., i, 800.
- Methylcamphoformeneaminocarboxylic acid** (TINGLE and ROBINSON), 1906, A., i, 903.
- Methylcampholenone** (BEHAL), 1904, A., i, 514.
- Methylcampholenonitrile** (GLOVER), 1908, T., 1299; P., 152.
- Methylcamphor**, bromo- (MINGUIN), 1903, A., i, 428.
- $\alpha$ -**Methylcamphor**, preparation of, and its bromo-derivatives and  $\beta$ -**sulphonic acid** and its derivatives, and oxime (GLOVER), 1908, T., 1289; P., 151.  
comparison of, with fenchone (GLOVER), 1908, T., 1215; P., 151.
- Methylcamphorcarboxylic acid** and its esters (BRÜHL), 1903, A., i, 6.  
isomeric methyl esters (MINGUIN), 1904, A., i, 138.
- Methylcarbamic acid**, methylammonium salt (FICHTER and BECKER), 1912, A., i, 15.
- Methylcarbamide**, decomposition of (FAWSITT), 1904, T., 1581; P., 126, 203.  
cyanoacetate (BAUM), 1908, A., i, 252.
- Methylcarbamides**, binary solution equilibrium between phenol and the (KREMANN, DAIMER, GUGL, and LIEB), 1910, A., ii, 943.  
action of, on benzil (BILTZ, HORMANN, and RIMPEL), 1908, A., i, 218; (BILTZ and RIMPEL), 1908, A., i, 462.
- Methylcarbamidocarboxylic acid**, esters of (MAUGUIN), 1911, A., i, 358.
- 1-Methylcarbamido-2:5-dimethylpyrrole-3:4-dicarboxylic acid** and its ethyl ester (BÜLOW, RIESS, and SAUERMEISTER), 1905, A., i, 661.
- 2-Methylcarbazole** and its picrate (BORSCHKE, WITTE, and BOTHE), 1908, A., i, 367.
- Methylcarbazoles**, 1- and 3-, and their picrates (DELETRA and ULLMANN), 1904, A., i, 270.
- 3-Methylcarbazolecarboxylic acid** (BORSCHKE and FEISE), 1907, A., i, 243.
- 9-Methylcarbazole-3:6-diphthaloylic acid** and its dimethyl ester (EHRENREICH), 1912, A., i, 130.
- 9-Methylcarbazole-3-phthaloylic acid** and its methyl ester (EHRENREICH), 1912, A., i, 130.
- Methylcarbazoline**, 4- or 2-, and its additive salts (PLANCHER and CARRASCO), 1904, A., i, 778.
- 3-Methylcarbazon**, formation of, and its reactions (BORSCHKE and FEISE), 1907, A., i, 242.
- 3-Methylcarbazy** methyl ketone (BORSCHKE and FEISE), 1907, A., i, 243.
- Methylcarbimide** (*methyl isocyanate*), chloro- (SCHROETER), 1909, A., i, 774.
- Methylcarbithionic acid**. See **Acetic acid**, *dithio*-.  
*o*-**Methylcarbonatobenzoic acid** (FISCHER), 1909, A., i, 162.
- p*-**Methylcarbonatobenzoic acid** and its chloride (FISCHER), 1908, A., i, 892.
- p*-**Methylcarbonatobenzophenone** (FISCHER), 1909, A., i, 310.
- o*-**Methylcarbonatobenzoyl chloride** (FISCHER), 1909, A., i, 162.
- p*-**Methylcarbonatobenzoylglycine**, ethyl ester (FISCHER), 1908, A., i, 892.
- p*-**Methylcarbonatobenzoylmorphine** and its hydrochloride (RIEDEL), 1910, A., i, 765.
- o*-2-**Methylcarbonatobenzoyloxybenzoic acid** (EINHORN, HAAS, v. BAGH, LADISCH, and ROTHLAUF), 1911, A., i, 302.
- p*-**Methylcarbonatobenzoyloxybenzoic acid** (FISCHER), 1909, A., i, 161.
- o*-**Methylcarbonatocinnamic acid** and its chloride (FISCHER), 1909, A., i, 162.
- Methylcarbonato-derivatives** of amino-acids (FISCHER), 1908, A., i, 544.
- Methylcarbonatodi-*o*-coumaric acid** (FISCHER and HOESCH), 1912, A., i, 859.

- Methylcarbonatodiferulic acid** (FISCHER and HOESCH, 1912, A., i, 859).
- 4-Methylcarbonato-2:6-dimethoxybenzoic acid**, and its methyl ester (FISCHER and PFEFFER, 1912, A., i, 559).
- Methylcarbonatoferulic acid** and its chloride (FISCHER and HOESCH, 1912, A., i, 859).
- 4-Methylcarbonatoferuloyloxybenzoic acid** (FISCHER and HOESCH, 1912, A., i, 859).
- 5-Methylcarbonato-2-hydroxybenzoic acid**, methyl ester (FISCHER and PFEFFER, 1912, A., i, 559).
- 3-Methylcarbonato-4-hydroxybenzoic acid** (FISCHER and FREUDENBERG, 1911, A., i, 875).
- 4-Methylcarbonato-2:6-di-hydroxybenzoic acid** (FISCHER, 1910, A., i, 248).
- 3-Methylcarbonato-4:5-di-hydroxybenzoic acid** (FISCHER and FREUDENBERG, 1912, A., i, 887).
- Methylcarbonato-2-hydroxybenzoic acids**, 4- and 5- (FISCHER, 1909, A., i, 162).
- p-Methylcarbonatohydroxybenzoyl chloride** (FISCHER and FREUDENBERG, 1912, A., i, 472).
- 5-Methylcarbonato-3-hydroxy-o-toluic acid**. See Methylcarbonato-orsellinic acid.
- 4-Methylcarbonato-3-methoxybenzaldehyde** (FISCHER and FREUDENBERG, 1910, A., i, 267).
- 4-Methylcarbonato-3-methoxybenzoic acid** and its chloride (FISCHER and FREUDENBERG, 1910, A., i, 266).
- 4- and 5-Methylcarbonato-2-methoxybenzoic acids**, methyl esters (FISCHER and PFEFFER, 1912, A., i, 559).
- 4-Methylcarbonato-3-methoxybenzoyl-aminoacetic acid**, ethylester (FISCHER and FREUDENBERG, 1910, A., i, 267).
- 4-Methylcarbonato-3-methoxybenzoyl-di-p-oxybenzoyl-p-oxybenzoic acid** (FISCHER and FREUDENBERG, 1910, A., i, 267).
- 4-Methylcarbonato-3-methoxybenzoyl-p-oxybenzoic acid** and its chloride (FISCHER and FREUDENBERG, 1910, A., i, 266).
- 4-Methylcarbonato-3-methoxybenzoyl-p-oxybenzoyl-p-oxybenzoic acid** and its chloride (FISCHER and FREUDENBERG, 1910, A., i, 267).
- 4-Methylcarbonato-3-methoxybenzoyl-vanillin** (FISCHER and FREUDENBERG, 1910, A., i, 267).
- $\alpha$ -Methylcarbonato- $\beta$ -naphthoic acid** and its chloride (FISCHER and HOESCH, 1912, A., i, 859).
- 2-Methylcarbonato-3-naphthoic acid** and its chloride (FISCHER and HOESCH, 1912, A., i, 859).
- 4- $\alpha$ -Methylcarbonatonaphthoyloxybenzoic acid** (FISCHER and HOESCH, 1912, A., i, 859).
- 2:2'-Methylcarbonato-3'-naphthoyloxy-3-naphthoic acid** (FISCHER and HOESCH, 1912, A., i, 859).
- 4-Methylcarbonato-3:5-dinitro-1-propylbenzene** (THOMS and DRAUZBURG, 1911, A., i, 716).
- Methylcarbonato-orsellinic acid** (*5-methylcarbonato-3-hydroxy-o-toluic acid*) and its methyl ester, and their  $\beta$ -methyl ethers (FISCHER and HOESCH, 1912, A., i, 859).
- Methylcarbonatosalicyluric acid** (FISCHER, 1909, A., i, 162).
- 3-Methylcarbostyryl** (ORNSTEIN, 1907, A., i, 444).
- 2-Methylisocarbostyryl-4-carboxylic acid** and its ethyl ester (DIECKMANN and MEISER, 1908, A., i, 895).
- 4-Methyl-2'-carboxydiphenyl sulphoxide** (MAYER, 1910, A., i, 261).
- Methylcarbylamine**, action of azoimide on (OLIVERI-MANDALÀ, 1910, A., i, 343).
- 2-Methylcarvenene** (RUTE and EMMERICH, 1908, A., i, 556).
- 2-Methylcarveol**. See 2-Methyl- $\Delta^{8,9}$ -menthadiene-2-ol.
- Methylcatechol carbonate** (PAULY, 1909, A., i, 165).
- dichloro-* (DELANGE, 1907, A., i, 700).
- 3'-Methylchalkone**, 4'-hydroxy-. See *m*-Tolyl styryl ketone, *p*-hydroxy-.
- Methylchavicol** from *Javanese basilicum* oil, and its isomerides (VAN ROMBURGH, 1909, A., i, 597).
- $\alpha$ - and  $\beta$ -nitrosites (RIMINI, 1905, A., i, 198).
- compounds of, with mercury salts (BALBIANO, PAOLINI, and TONAZZI, 1904, A., i, 73).
- Methylchitoside** (NEUBERG and NEIMANN, 1903, A., i, 74).
- Methylchloroacetamide**, hydroxy- (EINHORN, 1905, A., i, 345).
- p-Methyl- $\alpha$ -chlorobenzyldeoxybenzoin** (KLAGES and TETZNER, 1903, A., i, 100).
- d-1-Methyl-4-chlorobromomethylcyclohexane**, 4-chloro- (PERKIN and POPE, 1911, T., 1528).

- 4-Methyl-2-tri- $\gamma$ -chloro- $\alpha$ - $\beta$ - $\delta$ -bromopropylquinoline** and its hydrochloride (SPALLINO and CUCCHIARONI), 1912, A., i, 582.
- Methyltrichlorocarbamide** (CHATTAWAY and WÜNSCH), 1909, T., 131.
- Methyldichloroacetimide** (BERGELL and FEIGL), 1902, A., i, 141.
- Methylchloroethylamine salts** (KNORR and MEYER), 1905, A., i, 748.
- 1-Methyl-4- $\beta$ - $\beta$ -dichloroethylbenzene**, formation of (AUWERS and KEIL), 1904, A., i, 26.
- 1-Methyl-4- $\beta$ - $\beta$ -dichloroethylbenzene**, 5-chloro- (AUWERS), 1911, A., i, 383.
- Methyl  $\alpha$ - $\beta$ -dichloro- and - $\delta$ -bromo-ethyl ketones** (SCHLOTTERBECK), 1909, A., i, 553.
- Methylchloromethylalkylcarbinols** (RIEDEL), 1906, A., i, 632.
- 3-Methyl-5-chloromethylbenzoic acid**, 2-hydroxy- (ANILINFABRIK- und EXTRAKT-FABRIKEN VORM. J. R. GEIGY), 1911, A., i, 978.
- 4-Methyl-4-dichloromethyl-1-ethylcyclohexadien-1-ol** (AUWERS), 1905, A., i, 434.
- 1-Methyl-1-dichloromethyl-4-ethyl- $\Delta^3$ -cyclohexen-2-one** (AUWERS and v. DER HEYDEN), 1909, A., i, 593.
- 4(or 5)-Methyl-5(or 4)-chloromethylglyoxaline** and its hydrochloride (EWINS), 1911, T., 2056; P., 259.
- 1-Methyl-1-dichloromethylcyclohexadiene- $\Delta^4$ -acetic acid**, and its ethyl ester (AUWERS), 1911, A., i, 298.
- 1-Methyl-1-dichloromethylcyclohexadiene-4-acetic acid**, 4-hydroxy-, and its ethyl ester (AUWERS), 1911, A., i, 298.
- 1-Methyl-1-dichloromethylcyclohexadien-2-one** and its semicarbazone (AUWERS and KEIL), 1903, A., i, 100.
- 1-Methyl-1-dichloromethyl- $\Delta^{2:5}$ -cyclohexadien-4-one** and its semicarbazone (AUWERS and KEIL), 1903, A., i, 100.
- action of phosphorus pentachloride on (AUWERS and KEIL), 1905, A., i, 445.
- 1-Methyl-1-dichloromethyl- $\Delta^{2:5}$ -cyclohexadien-4-one**, 5-chloro-, and its semicarbazone, and 3:5-dichloro- (AUWERS), 1911, A., i, 383, 384.
- 1-Methyl-1-trichloromethyl- $\Delta^{2:5}$ -cyclohexadien-4-one** and its oxime, and the acetyl derivative and phenylhydrazone of the oxime (ZINCKE and SCHL), 1907, A., i, 38.
- 1-Methyl-1-dichloromethylcyclohexan-4-one**, 2:3:5:6-tetrachloro- (AUWERS), 1911, A., i, 384.
- 1-Methyl-1-dichloromethyl- $\Delta^2$ -cyclohexen-4-one**, 5:6-dichloro- (AUWERS), 1911, A., i, 383.
- Methyldichloromethylmalonic acid, ethyl ester** (KÖTZ and ZÖRNIG), 1907, A., i, 112.
- 1-Methyl-1-dichloromethyl-4-methylene- $\Delta^{2:5}$ -cyclohexadiene**, 3-chloro-, and 3:5-dichloro- (AUWERS), 1911, A., i, 383, 384.
- 4-Methyl-4-dichloromethyl-1-methylen- and -ethylidene-cyclohexadienes** (AUWERS and HESSENLAND), 1907, A., i, 400.
- 1-Methyl-1-dichloromethyl-4-isopropyl- $\Delta^3$ -cyclohexen-2-one** (AUWERS and v. DER HEYDEN), 1909, A., i, 593.
- 1-Methyl-1-dichloromethyl-4-isopropyl- $\Delta^2$ -cyclohexen-6-one** (AUWERS and v. DER HEYDEN), 1909, A., i, 593.
- Methylchlorophyllides** (WILLSTÄTTER and STOLL), 1912, A., i, 286.
- 4-Methyl-2-tri- $\gamma$ -chloropropenylquinoline** (SPALLINO and CUCCHIARONI), 1912, A., i, 582.
- 1-Methyl-4-dichloroisopropylbenzene** (AUWERS), 1905, A., i, 434.
- Methyl  $\alpha$ -chloropropyl ketone**, preparation of (KORSCHUN), 1908, A., i, 502.
- Methylchloroisopropylketoxime** (SCHMIDT and AUSTIN), 1903, A., i, 3.
- 4-Methyl-1-chloropropyluracil** (MAJIMA), 1908, A., i, 223.
- $\alpha$ -Methylcholine** and its salts and derivatives (MENGE), 1912, A., i, 74, 949.
- 2-Methylchroman** (STOERMER and SCHÄFFER), 1903, A., i, 848.
- 2-Methylchromone**, 5:7-dihydroxy-, and its acetyl derivative (JOCHUM and v. KOSTANECKI), 1904, A., i, 608.
- 7:8-dihydroxy-, and its diacetyl derivative (BLUMBERG and v. KOSTANECKI), 1903, A., i, 645.
- 2-Methylchromone-6-carboxylic acid**, 7-hydroxy- (LIEBERMANN and LINDENBAUM), 1909, A., i, 404.
- Methylchrysophanic acid**, so-called (OESTERLE and JOHANN), 1910, A., i, 860.
- Methylcincholeupone**, nitrile, and its additive derivatives (RABE and ACKERMANN), 1907, A., i, 546.
- Methylcinchonic acids**. See Methylquinolinecarboxylic acids.
- Methylcinchonine** and -cinchonidine, identity of (RABE), 1909, A., i, 408.
- Methylcinchonine**, isonitroso-, and its additive salts (ROHDE and SCHWARZ), 1905, A., i, 228.



- 1-Methyleinchotintoxine**, oxime of, and its transformation by the Beckmann reaction (KOENIGS, BERNHART, and IBELE), 1907, A., i, 717.
- Methyleinchotoxine** and its picrate, picrolonate, and semicarbazone (RABE and BRAASCH), 1909, A., i, 408.
- methiodide** and its benzoyl derivative (RABE, SCHNEIDER, and BRAASCH), 1908, A., i, 361.
- oxime of, and its transformation by the Beckmann reaction (KOENIGS, BERNHART, and IBELE), 1907, A., i, 345, 717.
- Methylcinene** and its hydrobromide (RUPE and SCHLOCHOFF), 1905, A., i, 415.
- $\alpha$ -Methylcinnamic acid**, action of hydroxylamine on (POSNER), 1904, A., i, 161.
- reactions of, with organo-magnesium compounds (KÖHLER), 1907, A., i, 139.
- $\beta$ -Methylcinnamic acid** and its derivatives (SCHROETER), 1904, A., i, 415; 1907, A., i, 530.
- menthyl ester (RUPE and BUSOLT), 1909, A., i, 927.
- $\beta$ -Methylcinnamic acid**, 2:5-*di*hydroxy- (BORSCHKE), 1907, A., i, 622.
- p*-Methylcinnamic acid**. See *p*-Tolyl-acrylic acid.
- $\beta$ -Methylcinnamic acids**, isomeric (TIEFFENEAU), 1904, A., i, 499.
- $\beta$ -Methylcinnamoylanilide** (HENRICH and WIRTH), 1904, A., i, 431.
- $\beta$ -Methylcinnamylideneacetic acid** (KÖHLER and HERITAGE), 1910, A., i, 485.
- Methylcitraconanil** (FICHTER and GOLDHABER), 1904, A., i, 648.
- Methylcitrazinic acids**, 3- and 5-, formation of (ROGERSON and THORPE), 1906, T., 643; P., 87.
- Methylcodeine methiodide** (PSCHORR, DICKHÄUSER, and D'AVIS), 1911, A., i, 908.
- Methylisocodeine methiodide** (PSCHORR and DICKHÄUSER), 1912, A., i, 578.
- Methylcodeinium salts** (GERBER), 1911, A., i, 154.
- N*-Methylcæramidonol** and its ethers (DECKER and SCHENK), 1906, A., i, 690.
- 14-Methyl-cæroxone-9-ol** and its ethyl ether and -cæroxonium ferrichloride (DECKER, v. FELENNBERG, and STERN), 1907, A., i, 1066.
- 14-Methyl-cæthionium ferrichloride**, -cæthione-9-ol, and -cæthiene-10-ol (DECKER, v. FELENNBERG, and WUERSCH), 1907, A., i, 1066.
- 2-Methylconidine** (LÖFFLER and PLÖCKER), 1907, A., i, 437.
- 3-Methylconidine** and its salts (LÖFFLER and GROSSE), 1907, A., i, 439.
- 8-Methylconidine** and its derivatives (LÖFFLER and REMMLER), 1910, A., i, 633.
- 2- and iso-2-Methylconidine** and their salts (LÖFFLER), 1909, A., i, 326.
- Methylconiine** and its additive salts (v. BRAUN), 1905, A., i, 812.
- 4-Methylcoumaran** (STOERMER and GÖHL), 1903, A., i, 848.
- 4-Methylcoumarandione**, phenylhydrazones of, and their derivatives (AUWERS and APITZ), 1911, A., i, 585.
- 4- and 5-Methylcoumarandiones** (FRIES), 1909, A., i, 175.
- 1-Methylcoumaranone** (STOERMER and ATENSTÄDT), 1903, A., i, 42.
- 4-Methylcoumaran-2-one**, derivatives of (FRIES and FINCK), 1909, A., i, 43; (AUWERS and MÜLLER), 1909, A., i, 45.
- 5-Methylcoumaranone**, derivatives of (FRIES and FINCK), 1909, A., i, 44.
- (1)-4-Methylcoumaranonyl-3-indole** (FRIES and FINCK), 1909, A., i, 45.
- o*-Methylcoumaric acid** dibromide and its alkyloxy-derivatives (WERNER, SCHORNDORFF, and CHOROWER), 1906, A., i, 181.
- 4-Methyl-*o*-coumaric acid**, ethyl ester (FRIES and KLOSTERMANN), 1908, A., i, 822.
- $\alpha$ - and  $\beta$ -Methyl-*o*-coumaric acids** (FRIES and VOLK), 1911, A., i, 203.
- Methylcoumarilic acid**, 4-chloro-, ethyl ester, and 4-hydroxy-, and its ether (STOERMER and OETKER), 1904, A., i, 245.
- 2-Methylcoumarilic acid** and 4-*mono*- and 4:6-*di*-bromo-, and their salts (PETERS and SIMONIS), 1908, A., i, 340.
- 4-Methylcoumarilic acid**, 2-hydroxy-, ethyl ester, and its salts (AUWERS), 1912, A., i, 1010.
- 3-Methylcoumarin**, synthesis of (BAIDAKOWSKY), 1906, A., i, 178.
- 4-Methylcoumarin** and its bromoderivatives (PETERS and SIMONIS), 1908, A., i, 339.
- 4-Methylcoumarin**, 6- and 7-chloro-, formation of (CLAYTON), 1908, T., 2021.
- 6-hydroxy-, and its acyl-, bromo-, and nitro-derivatives (BORSCHKE), 1907, A., i, 622.
- 6-Methylcoumarin** and nitro- (CLAYTON), 1911, P., 246.

- 6-Methylcoumarin**, 6-chloro- (STOERMER and OETKER), 1904, A., i, 245.
- 3-cyano-4-hydroxy-, and its silver and sodium salts (ANSCHÜTZ and SIEBEN), 1909, A., i, 665.
- 4-hydroxy-, and its ethyl ether (ANSCHÜTZ and SIEBEN), 1909, A., i, 665.
- 7-Methylcoumarin** (FRIES and KLOSTERMANN), 1906, A., i, 276; (ANSCHÜTZ, WAGNER, and JUNKERSDORF), 1909, A., i, 644.
- and its additive salts, oxime, and phenylhydrazone (CLAYTON), 1908, T., 526; P., 26.
- 7-Methylcoumarin**, 6-amino- (CLAYTON), 1910, T., 1352.
- 4-bromo- (ANSCHÜTZ, WAGNER, and JUNKERSDORF), 1909, A., i, 664.
- 3-cyano-4-hydroxy-, and its methyl, ethyl, and propyl ethers, and silver, and sodium salts (ANSCHÜTZ, WAGNER, and JUNKERSDORF), 1909, A., i, 664.
- 4-hydroxy-, and its methyl, ethyl, and propyl ethers, silver salt, and acetate (ANSCHÜTZ, WAGNER, and JUNKERSDORF), 1909, A., i, 664.
- 6- and 8-nitro- and 3:6-dinitro- (CLAYTON), 1910, T., 1397.
- 8-Methylcoumarin**, 4-hydroxy-(3-methylbenzotetronic acid) (ANSCHÜTZ and SCHOLL), 1911, A., i, 316.
- Methylcoumarins**, 5-, 6-, 7-, and 8-, and their 3-acetyl derivatives and their oximes, phenylhydrazones, and semicarbazones and carboxylic acids and their ethyl esters (CHUIT and BOL-SING), 1906, A., i, 185.
- 7-Methylcoumarin-4-acetic acid**, and its esters (FRIES and VOLK), 1911, A., i, 204.
- 7-Methylcoumarin-3-carboxyl-anilide** and -phenetide, 4-hydroxy- (ANSCHÜTZ, WAGNER, and JUNKERSDORF), 1909, A., i, 663.
- 6-Methylcoumarin-3-carboxylic acid**, 4-hydroxy-, ethyl ester, and its ethyl ether, and metallic derivatives (ANSCHÜTZ and SIEBEN), 1909, A., i, 665.
- 7-Methylcoumarin-3-carboxylic acid**, 4-chloro-, ethyl ester (ANSCHÜTZ, WAGNER, and JUNKERSDORF), 1909, A., i, 663.
- 4-hydroxy-, ethylester, and its metallic salts and acetate (ANSCHÜTZ, WAGNER, and JUNKERSDORF), 1909, A., i, 663.
- 6-, 7-, and 8-Methylcoumarin-3-carboxylic acids**, 4-hydroxy-, methyl esters (ANSCHÜTZ and SCHOLL), 1911, A., i, 316.
- 7-Methylcoumarin-3-carboxyl-phenyl- and phenylmethyl-hydrazides**, 4-hydroxy- (ANSCHÜTZ, WAGNER, and JUNKERSDORF), 1909, A., i, 663.
- 7-Methylcoumarin-3-ethylcarboxylamide**, 4-hydroxy- (ANSCHÜTZ, WAGNER, and JUNKERSDORF), 1909, A., i, 663.
- 1-Methylcoumarone**, 4-nitro-, and 4:6-dinitro- (HALE), 1912, A., i, 567.
- 4-Methylcoumarone**, 4-hydroxy-, and its phenylurethane (STOERMER and OETKER), 1904, A., i, 245.
- Methylcoumarones**, 1- and 2- (BOES), 1909, A., i, 42.
- 1-Methylcoumaranone-1-carboxylic acid**, ethyl ester (AUWERS), 1912, A., i, 1009.
- Methylcreatinine** and its additive salts (KORNDÖRFER), 1905, A., i, 152.
- β-Methylcrotonic acid**, γ-cyano-, ethyl ester (ROGERSON and THORPE), 1905, T., 1687.
- α- and β-Methylcrotonic acids**, menthyl esters (RUPE and BUSOLT), 1909, A., i, 928.
- Methylcrotonylcarbinol**. See Δ<sup>ε</sup>-Hexene, β-hydroxy-.
- N-Methylcumidine** and its additive salts and benzoyl derivative (SACHS and WEIGERT), 1907, A., i, 1046.
- N-Methylcuminaldoxime** and its hydrochloride (BECKMANN and NETSCHER), 1909, A., i, 391.
- Methyl-α-cyanomethylaniline**. See α-Methylanilinopropionitrile.
- 1-p-Methyl-ω-cyanomethylaminophenyl-2:4-dimethyl-3-hydroxymethyl-5-pyrazolone** (FARBWERKE VORM. MEISTER LUCIUS, & BRÜNING), 1910, A., i, 340.
- 1-Methyl-4- and -5-cyanomethylglyoxaline** and their salts (PYMAN), 1911, T., 2179; P., 275.
- 4(or 5)-Methyl-5(or 4)-cyanomethylglyoxaline** and its salts (EWINS), 1911, T., 2056; P., 259.
- Methylecycloisopropylketoxime** and its benzoyl derivative (SCHMIDT and AUSTIN), 1903, A., i, 2.
- 2-Methyl-p-cymene** and its sulphonic acids (KLAGES and SOMMER), 1906, A., i, 566.
- optical constants of (KLAGES), 1907, A., i, 598.
- 3-Methylcytosine** and its pierate and platinichloride (JOHNSON and CLAPP), 1908, A., i, 836.

- 4-Methyleytosine**, synthesis of, and its additive salts (JOHNS), 1908, A., i, 917.  
formation of purine derivatives from, and 5-nitro- (JOHNS), 1909, A., i, 191.
- 5-Methylcytosine** and its additive salts and acetyl derivative (WHEELER and JOHNSON), 1904, A., i, 624.
- Methyl damascenine** and its additive salts and nitroso-compound (KELLER), 1908, A., i, 283.
- $\beta$ -Methyl- $\Delta_{\alpha\gamma}$ -decadiene** (HARDING, WALSH, and WEIZMANN), 1911, T., 450.
- 6-Methyldecahydroquinoline** and its hydrochloride and thiocarbamide (FINGER and BREITWIESER), 1909, A., i, 512.
- Methyl-*n*-decylcarbinol** (PICKARD and KENYON), 1911, T., 58.
- d*-Methyl-*n*-decylcarbinol** and its hydrogen phthalate and brucine salt of the latter (PICKARD and KENYON), 1911, T., 60.
- N*-Methyldeisodihydrohydrastinine** and its salts (FREUND and SHIRATA), 1912, A., i, 488.
- N*-Methyldehydrocotarnine methiodide** (FREUND and OPPENHEIM), 1909, A., i, 411.
- cyclo*-2-Methyldehydrohexamethylene-imine picrate** (GABRIEL), 1909, A., i, 493.
- 2-Methyldeoxybenzoin**, 4-hydroxy- (BLAU), 1905, A., i, 906.
- 3-Methyldeoxybenzoin**, 4-hydroxy-, and its bromo-, iodo-, and acetyl derivatives and oxime (BLAU), 1905, A., i, 905.
- 3-Methyldeoxybenzoin-2-carboxylic acid** (MÜLLER), 1909, A., i, 159.
- Methyldeoxycodine methiodide** (KNORR and WAENTIG), 1907, A., i, 958.
- Methyldeoxydihydrocodeine methiodide** (KNORR and WAENTIG), 1907, A., i, 958.
- 1-Methyldeoxyxanthine** and its salts (TAFEL and HETERICH), 1911, A., i, 506.
- Methyldiacetonalkamine**. See Methyl- $\beta$ -methylaminoisobutylcarbinol.
- Methyldiacetoneamine** and its oxime, benzoyl derivative, and salts (HOCHSTETTER and KOHN), 1904, A., i, 18.
- Methyldiallylcarbinol** (SAYTZEFF, PETROFF, MUSUROFF, CHOWANSKY, ANDRÉEFF, CHONOWSKY, and LUNACK), 1907, A., i, 815.
- 3-Methyldiallylcyclohexanone** (HALLER), 1905, A., i, 214.
- Methyldiisomylisocarbamide** (McKEE), 1909, A., i, 636.
- ms*-Methyl-1:2:1':2'-dianthracenexanthene** (ULLMANN and ÜRMÉNYI), 1912, A., i, 716.
- 2-Methyl-1:2:4'-dianthraquinonylamine**, oxidation of (BADISCHE ANILIN- & SODA-FABRIK), 1908, A., i, 456.
- 6-Methyl-2:3:7:0-diazpyridazine**, 4-hydroxy-. See 5-Methyl-1:2:4:9-benzotetrazole, 7-hydroxy-.
- 5-Methyl-1:2-dibenzanthraquinone**, *pentabromo*- (SCHOLL and TRITSCH), 1912, A., i, 36.
- 3-Methyldibenzyl-2-carboxylic acid** (MÜLLER), 1909, A., i, 159.
- Methyldiisobutylisocarbamide** and its hydrochloride and ferrocyanide (McKEE), 1909, A., i, 635.
- Methyldiisobutylurethane**. See Diisobutylcarbamide, methyl ester.
- 4-Methyl-2:3-dicarbethoxypentan-4-olid**. See  $\alpha\beta$ -Dicarbethoxy- $\gamma\gamma$ -dimethylbutyrolactone.
- $\alpha$ -Methyl- $\alpha\alpha$ -diethylacetophenone** and its oxime (HALLER and BAUER), 1909, A., i, 109.
- Methyldiethylamine**, chloro-, and its platinichloride (HOUBEN and ARNOLD), 1908, A., i, 534.
- 1-Methyl-5:5-diethylbarbituric acid** (FISCHER and DILTHEY), 1905, A., i, 37; (CONRAD and ZART), 1905, A., i, 753.
- Methyl-5:5-diethylbarbituric acids**, 1- and 3-, 4-imino- (CONRAD and ZART), 1905, A., i, 752, 755.
- Methyldiethylbetainenitrile** and its derivatives (KLAGES and MARGOLINSKY), 1904, A., i, 145.
- as*- $\psi$ -Methyldiethylcarbamide** (McKEE), 1906, A., i, 732.
- Methyldiethylcarbinol** (KLING), 1904, A., i, 2.
- Methyldiethylcarbinol, chloro-** (RIEDEL), 1906, A., i, 632.  
and its reaction with secondary amines (SÜSSKIND), 1906, A., i, 133.  
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- Methyldiethylcarbinyurethane** (VEREINIGTE CHINIFABRIKEN ZIMMER & Co.), 1912, A., i, 542.
- 10-Methyl-9-diethyldihydroacridine** (FREUND and BODE), 1909, A., i, 515.
- $\alpha$ -Methyl- $\beta\beta$ -diethylethylene- $\alpha$ -chlorohydrin** (FOURNEAU and TIFFENEAU), 1907, A., i, 818.



- Methyldiethyl- $\beta$ -hydroxyethylammonium salts** (EMDE and RUNNE), 1911, A., i, 718.
- Methyldiethyl- $\beta$ -hydroxyethylammonium aurichloride** (EMMERT), 1912, A., i, 253.
- 2-Methyl-3:3-diethylindolenine**, action of magnesium phenyl bromide on (PLANCHER and RAVENNA), 1907, A., i, 152.
- 1-Methyl-1:2-diethylcyclopropane** (KJNER), 1912, A., i, 247.
- Methyldiethylpropionobetaine** and its derivatives (KLAGES and MARGOLINSKY), 1904, A., i, 145.
- 4-Methyl-2:2-diethyl-7-isopropylindandione** (FREUND and FLEISCHER), 1910, A., i, 491.
- 5-Methyl-2:4-diethylpyrimidine**, 6-amino-. See Cyanethine.
- Methyldiethylsulphinium hydroxide** in dogs' urine (NEUBERG and GROSSER), 1905, A., ii, 739.
- Methyldiethyluracil** and *dibromo-* and *tribromohydroxy-* (HORBEL), 1907, A., i, 558.
- Methyldiglycollic acid**, ethyl ester, anhydride, amide, and imide of (JUNGFLEISCH and GODCHOT), 1907, A., i, 749.
- 10-Methyldihydroacridine**, 5-cyano-, and its picrate and platinumchloride (KAUFMANN, ALBERTINI, and HOLSENER), 1909, A., i, 606.
- 1-Methyl-9:10-dihydroanthracene** (FISCHER and ZIEGLER), 1912, A., i, 754.
- 4-Methyl-9:10-dihydroanthracene**, 1-chloro- (FISCHER and ZIEGLER), 1912, A., i, 754.
- 2-Methyl-1:3-dihydrobenzoxazine-4-one** (HICKS), 1910, T., 1032; P., 91.
- $\alpha$ -Methyldihydroberberine** and its salts (FREUND and BECK), 1905, A., i, 151; (MERCK), 1907, A., i, 435.
- 2-Methyldihydrocarvene**. See 2-Methylhomolimonene.
- 2-Methyldihydrocarveol** (RUPE and EMMERICH), 1908, A., i, 433.
- Methyldihydrocarvone** and its oxime and semicarbazone (RUPE and LIECHTENHAN), 1906, A., i, 375.
- 4-Methyldihydrocinnamic acid**. See  $\beta$ -*p*-Tolylpropionic acid.
- 4-Methyldihydrocoumarin** (PETERS and SIMONIS), 1908, A., i, 340.
- 2-Methyldihydrofuranone**, 3:4-*dibromo-* and *dichloro-* (SIMONIS, MARPEN, and MERMOD), 1906, A., i, 32.
- $\alpha$ -Methyl  $\alpha\beta$ -dihydrogeranic acid**. See  $\alpha\beta\zeta$ -Trimethyl- $\Delta^6$ -octenoic acid.
- 3-Methyl-2:3-dihydroindene-2-carboxylic acid**, resolution of, into its optically active isomerides (NEVILLE), 1906, T., 383; P., 64.
- 2-Methyldihydroindole**, formation of, and its benzoyl and benzenesulphonyl derivatives (v. BRAUN and STEINDORFF), 1905, A., i, 81, 156.
- preparation and resolution of, and its salts and acetyl and benzoyl derivatives (POPE and CLARKE), 1904, T., 1230; P., 182.
- 3-Methyldihydroindole**, benzoyl derivative (v. BRAUN and KIRSCHBAUM), 1912, A., i, 499.
- 4-Methyldihydroindoleanthrene**, 6-hydroxy- (SCHOLL and TRITSCH), 1912, A., i, 36.
- Methyldihydromorphimethines**,  $\alpha$ - and  $\beta$ -, action of bromine on (VONGER-ICHTEN and HÜBNER), 1907, A., i, 718.
- $\epsilon$ -Methyldihydromorphimethine methyl ether**, bromohydroxy-, and its hydriodide (PSCHOER, DICKHÄUSER, and D'AVIS), 1912, A., i, 720.
- 10-Methyl-1:2-dihydronaphthacridine** (BUCHERER and SEYDE), 1907, A., i, 345.
- 1-Methyldihydro-1':2'-naphtha-2-quin-oxalone** (LANGE), 1908, A., i, 839.
- 2-Methyldihydroperimidylacetic acid**, ethyl and methyl esters (SACHS), 1909, A., i, 132.
- 2-Methyldihydroperimidylpropionic acid**, ethyl ester (SACHS), 1909, A., i, 433.
- 3-Methyldihydrophenanthraphenaz-oxine**, hydroxy- (KEHRMANN and WINKELMANN), 1907, A., i, 346.
- 3-Methyldihydropyrazoquinazolone**, 6-amino-, and its derivatives (MICHAELIS, KRUG, LEO, and ZIESEL), 1910, A., i, 514.
- Methyldihydropyridone**, hydroxy- (MAQUENNE and PHILIPPE), 1904, A., i, 339.
- 1-Methyl-1:2-dihydro-6-pyridone-3-carboxylic acid** and its methyl ester (MEYER), 1906, A., i, 108.
- 3-Methyldihydro-2-pyrimidone**, 5:6-*di-amino-*, and its formyl derivative and 5-nitro-6-amino- (JOHNS), 1912, A., i, 320.
- 4-Methyl-1:6-dihydro-6-pyrimidone**, 2-oximino- (JOHNSON and SHEPARD), 1912, A., i, 911.
- 5-Methyldihydro-6-pyrimidone**, 2-amino-, and its salts (JOHNSON and CLAPP), 1904, A., i, 819.

- 4-Methyldihydro-6-pyrimidone-5-acetic acid, 6-amino- (JOHNSON and HEYL), 1908, A., i, 59.
- 4-Methyl-1:6-dihydro-6-pyrimidone-2-oximinethiolpropionic acid (JOHNSON and SHEPARD), 1912, A., i, 911.
- 4-Methyl-1:6-dihydro-6-pyrimidone-2-thiolacetic acid, and its potassium salt and ethyl ester (JOHNSON and SHEPARD), 1911, A., i, 924.
- 4-Methyl-1:6-dihydro-6-pyrimidone-2- $\alpha$ -thiol- $\beta$ -hydroxyacrylic acid, ethyl ester (JOHNSON and SHEPARD), 1911, A., i, 925.
- 4-Methyl-1:6-dihydro-6-pyrimidone-2-thioloxalacetic acid (JOHNSON and SHEPARD), 1912, A., i, 911.
- diethyl ester, and its thiocarbamide derivative (JOHNSON and SHEPARD), 1911, A., i, 925.
- 4-Methyl-1:6-dihydro-6-pyrimidone-2-thiopyruvic acid (JOHNSON and SHEPARD), 1912, A., i, 911.
- 2-Methyldihydroquinazoline and its picate (GABRIEL), 1903, A., i, 446.
- 3-Methyldihydroquinazoline and its salts (GABRIEL and COLMAN), 1904, A., i, 1060.
- 8-Methyldihydroquinazoline and its additive salts (JÜRGENS), 1907, A., i, 1037.
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- 2-Methyldihydro-4-quinazoline (FINGER), 1907, A., i, 876.
- and its additive salts (HELLER and SOURLIS), 1908, A., i, 913.
- and 3-amino-, methiodides (BOGERT and GEIGER), 1912, A., i, 511.
- 2-Methyldihydro-4-quinazoline, 5-amino-, and its additive salts (BOGERT and CHAMBERS), 1906, A., i, 389.
- bromo-, and 6-nitro- (BOGERT and GEIGER), 1912, A., i, 396.
- $\omega$ -dichloro- (GÄRTNER), 1905, A., i, 130.
- 5-nitro-, and its additive salts (BOGERT and CHAMBERS), 1905, A., i, 613.
- and its 3-alkyl derivatives, synthesis of (BOGERT and SEIL), 1905, A., i, 945.
- 6-nitro-, synthesis of, from 5-nitro-acetylanthranil and primary amines, and 6-nitro-3-amino-, and 3-ethyl derivative (BOGERT and COOK), 1906, A., i, 988.
- 7-nitro-, and its 3-methyl derivative (BOGERT and STEINER), 1905, A., i, 946.
- 2-Methyldihydro-4-quinazoline, 5-nitro-3-amino-, and its additive salts, and diacetyl and bromo-derivatives (BOGERT and SEIL), 1906, A., i, 712.
- 3-Methyldihydro-4-quinazoline ethiodide (BOGERT and GEIGER), 1912, A., i, 511.
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- 7-Methyldihydro-4-quinazolones and their 2-alkyl derivatives (BOGERT and HOFFMAN), 1905, A., i, 891.
- 13-Methyl-5:13-dihydroquinodinium, salts of (FICHTER and ROHNER), 1911, A., i, 86.
- 1-Methyldihydroquinoline, 6-bromo-8-nitro-2-hydroxy-, and its methyl and ethyl ethers (DECKER, KAUFMANN, PFEIFER, PROHATZKA, and ALBERTINI), 1911, A., i, 1025.
- 4-cyano- (KAUFMANN and ALBERTINI), 1909, A., i, 958.
- 1-Methyl-1:2-dihydroquinoline, 3-chloro-5-nitro-2-hydroxy- (DECKER), 1903, A., i, 516.
- 2-Methyldihydroquinoline and its picate (HELLER and SOURLIS), 1908, A., i, 914.
- hydrochloride and sulphate and di-bromo- (HELLER and SCHMEJA), 1911, A., i, 748.
- 6-Methyldihydroquinoline (HELLER and SCHMEJA), 1911, A., i, 749.
- 8-Methyldihydroquinoline and its hydrochloride (HELLER and SCHMEJA), 1911, A., i, 749.
- 1-Methyl-3:4-dihydroisoquinoline and salts of (PICTET and KAY), 1909, A., i, 514.
- 2-Methyl-3:4-dihydroisoquinolinium hydroxide, salts of (PYMAN), 1909, T., 1749.
- 6:7-dihydroxy-, phenol-betaine, and other derivatives of (PYMAN), 1910, T., 276.
- Methyldihydroresorcinol (3:5-dihydroxy-methylcyclohexadiene) (BLAISE and MAIRE), 1907, A., i, 419.
- condensation of, with *m*-phenylenediamine (HAAS), 1906, T., 577.
- $\alpha$ -Methyldihydrosorbic acid (*heptenoic acid*),  $\beta$ -hydroxy-, and its ethyl ester and salts, synthesis of (JAWORSKY and REFORMATSKY), 1903, A., i, 4.
- (JAWORSKY), 1903, A., i, 729.

- 4'-Methyldihydro-4-stilbazole** and its additive salts (DÜRING), 1905, A., i, 233.
- 4-Methyl-3:4-dihydro-1:2:4:5-tetrazine-3:6-dicarboxylamide** (CURTIUS, DARAPSKY, and MÜLLER), 1909, A., i, 848.
- 4-Methyl-2:3-dihydrothiazole**, 2-imino-, acetyl derivative of (YOUNG and CROOKES), 1905, P., 308; 1906, T., 67.
- 5-Methyl-4:5-dihydrothymine-4-carboxylic acid**, 5-bromo-4-hydroxy- (JOHNSON), 1907, A., i, 880.
- 6-Methyl-1:6-dihydro-1:2:4-triazine**, 3:5-dihydroxy-, and its 1-benzoyl derivative (BAILEY), 1903, A., i, 130.
- Methyldihydrouracil**, trihydroxy- (BEHREND and FRICKE), 1903, A., i, 740.
- 5-Methyldihydrouracil**, 5-hydroxy- (FOURNEAU), 1909, A., i, 211.
- Methyldihydrouracils**,  $\alpha$ - and  $\beta$ -, trihydroxy-, and their reactions (BEHREND, OSTEN, and BEER), 1906, A., i, 309; (BEHREND and BEER), 1908, A., i, 840.
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- aurichloride** (KOHN), 1905, A., i, 929.
- $\gamma$ -Methyl- $\beta\beta$ -dimethylol- $\alpha$ -butanol** and its triacetate and tribenzoate (VAN MARLE and TOLLENS), 1903, A., i, 460.
- Methyldinaphthacridine** and its additive salts (SENIER and AUSTIN), 1906, T., 1393; P., 241.
- 13-Methyl-5:7:12:14-dinaphthanthraquinone** (W. H. and M. MILLS), 1912, T., 2201.
- Methyldinaphthaquinonitrole** (FRIES and HÜBNER), 1906, A., i, 190.
- 1-Methyldicyclo-1:2:3- $\Delta^1$ -octen-3-one** (SEMMLER and BARTELT), 1908, A., i, 355.
- 3-Methyldioxindole**, and 5-bromo- (KOHN and OSTERSETZER), 1912, A., i, 51.
- 2-Methyldiphenyl**, octabromo- (KLAGES), 1907, A., i, 599.
- 4-Methyldiphenyl**, 2'-amino-, benzoyl derivative (v. BRAUN), 1910, A., i, 189, 880.
- 4-Methyldiphenylamine**, 2-amino-, hydrochloride and benzoyl derivative of, and 2'-nitro- (BORSCHKE and FEISE), 1907, A., i, 243.
- 4'-nitro-3-amino-** (ULLMANN), 1908, A., i, 457.
- N-Methyldiphenylamine** hydriodide mercuri-iodide (BARNETT and SMILES), 1910, T., 984.
- $\alpha$ -sulphoxide** (BARNETT and SMILES), 1910, T., 188.
- chlorodinitro-** (PAGE and SMILES), 1910, T., 1117.
- Methyl-2':4'-diphenylaminesulphonic acids**, sodium salts and amides (REVERDIN and CRÉPIEUR), 1903, A., i, 248.
- S-Methyldiphenylamine- $\alpha$ -sulphonium iodide** mercuri-iodide (BARNETT and SMILES), 1910, T., 983.
- 2-Methyldiphenyl-2'-carboxylic acid**, 4:4'-diamino-, and its salts (CHEMISCHE FABRIK VORM. WEILER-TERMEER), 1904, A., i, 53.
- $\omega$ -hydroxy-**, and its lactone (KENNER and TURNER), 1911, T., 2113; P., 262.
- 4-Methyldiphenyl-4'-carboxylic acid**, 2:2'-dinitro-, and its salts, and 2:2'-diamino-, and its hydrochloride (v. JAKUBOWSKI and v. NIEMENTOWSKI), 1909, A., i, 265.
- $\alpha$ -Methyl- $\alpha'\beta$ -diphenyl- $\alpha'\beta$ -dihydroxy-glutaric acid**. See  $\alpha'\beta$ -Diphenyl- $\alpha$ -methylglutaric acid,  $\alpha'\beta$ -dihydroxy-.
- $\alpha$ -Methyldiphenylmethane**, nonabromo- (KLAGES), 1907, A., i, 599.
- 3-Methyldiphenylmethane**, 5:3':5'-tribromo-4:4'-dihydroxy-, and 4':4'-dihydroxy- (AUWERS and RIETZ), 1907, A., i, 919.
- 4-Methyldiphenylmethanecarboxylic acid**, 2-hydroxy-, lactone of (v. LIEBIG), 1908, A., i, 728.
- Methyldiphenylsulphone-2-carboxylic acids**, 2'- and 4'- (ULLMANN and LEHNER), 1905, A., i, 290.
- $\alpha\alpha$ - $\psi$ -Methyldipropylcarbamide** (McKEE), 1906, A., i, 732.
- Methyldipropylisocarbamide** (McKEE), 1909, A., i, 636.
- Methyldipropylurethane**. See Dipropyl-carbamic acid, methyl ester.
- 5-Methyl-8:8'-diquinolyl** and its salts (v. JAKUBOWSKI and v. NIEMENTOWSKI), 1909, A., i, 265.
- 5-Methyl-8:8'-diquinolyl-5'-carboxylic acid** and its salts (v. JAKUBOWSKI and v. NIEMENTOWSKI), 1909, A., i, 264.
- $\beta$ -Methyl- $\Delta\alpha\alpha$ -dodecadiene** (HARDING, WALSH, and WEIZMANN), 1911, T., 450; P., 12.
- Methylene** bases, action of cyanogen bromide on (v. BRAUN and ROYER), 1903, A., i, 464.



- Methylene compounds** (HENRY; DESCUDÉ), 1906, A., i, 558.  
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- Methylene bromide** (dibromomethane), action of water on (KLÖSS), 1904, A., i, 1.  
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- Methyleneacetone**. See  $\Delta^{\alpha}$ -Buten- $\gamma$ -one.
- Methyleneacetophenone**. See Phenyl vinyl ketone.
- Methyleneadrenaline** (SCHROETER), 1910, A., i, 431.
- Methyleneaminoacetonitrile** (KLAGES), 1903, A., i, 469.
- Methyleneaminobenzoic acids**, *m*- and *p*- (HOUBEN and ARNOLD), 1903, A., i, 534.
- 5-Methyleneamino-4:5:4':5'-tetrahydro-4:4'-dipyrimidyl**, 2:4:6:2':4':5':6'-hepta-hydroxy-, and its amide (HURFLEY and WOOTTON), 1911, T., 295; P., 2.
- Methyleneaniline**. See Anhydroformaldehydeaniline.
- Methyleneanthranilic acid** and its salts (HOUBEN and ARNOLD), 1908, A., i, 533.
- Methyleneanthrone**, 9-dibromo- (KONDO), 1911, A., i, 67.
- Methylene-azure** (HANTZSCH), 1906, A., i, 206; (KEHMANN and DUTTENHÖFER), 1906, A., i, 460.  
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- Methylenebenzene-*m*-disulphonamide** (KNOEVENAGEL and LERACH), 1904, A., i, 995.
- Methylene-*o*-benzoquinone**, tetrabromo- (ZINCKE and KLOSTERMANN), 1907, A., i, 322.
- Methylene-*p*-benzoquinone**, tetrabromo-, and its reactions (ZINCKE and BÜTTCHER), 1906, A., i, 167.  
 tetrachloro- (ZINCKE, SCHNEIDER, and EMMERICH), 1903, A., i, 757.
- Methylenebisacetylacetone** (KNOEVENAGEL), 1903, A., i, 638.
- Methylenebisaspidinol** (BOEHM), 1904, A., i, 405.
- 3-Methylenebisbenzotetronic acid**. See 3-Methylenebis-4-hydroxycoumarin.
- Methylenebis-benzyl-, -methyl-, and -propyl-malonic acids**, chloro-, ethyl esters (KÜTZ and ZÖRNIG), 1907, A., i, 112.
- Methylenebischloroacetamide** (EINHORN and MAUERMAYER), 1906, A., i, 250.
- Methylenebistrichloroacetamide** (EINHORN and MAUERMAYER), 1906, A., i, 252.
- Methylenebis-3-chloro-6-nitroaniline** (BADISCHE ANILIN- & SODA-FABRIK), 1909, A., i, 910.
- Methylenebiscotoin** and its azo-compound (BOEHM), 1904, A., i, 404.
- Methylenebisdiethylmalonamic acid** (EINHORN and MAUERMAYER), 1906, A., i, 252.
- Methylenebisdimethylcarbamides**, - $\alpha$ -ethylbutyramide, -ethylcarbamide, and -propionamide (EINHORN), 1908, A., i, 609.
- 4-Methylenebis-3:5-dimethylisooxazole** (KNOEVENAGEL), 1903, A., i, 639; (RABE and ELZE), 1904, A., i, 749.
- Methylenebisfalic acid** and its azo-compound (BOEHM), 1904, A., i, 405.
- 3-Methylenebis-4-hydroxycoumarin** (ANSCHÜTZ), 1903, A., i, 271; (ANSCHÜTZ, ANSPACH, FRESSENIUS, and CLAUS), 1909, A., i, 663.

- Methylenebis-4-hydroxy-7-methylcoumarin** (ANSCHUTZ, WAGNER, and JUNKERSDORF), 1909, A., i, 664.
- 3:3-Methylenebis-4-hydroxy- $\beta\beta$ -naphthapyrone** (ANSCHUTZ and GRAFF), 1909, A., i, 665.
- Methylenebishydroxyquinol** and its acetate (LIEBERMANN, LINDENBAUM, and GLAWE), 1904, A., i, 443.
- Methylenebis-4:6-dihydroxy-1:2:3-trimethylbenzene** (LUTHER), 1907, A., i, 128.
- Methylenebis 2-imino-4-ketotetrahydrothiophen** (BENARY), 1910, A., i, 581.
- Methylenebismethyldianthranilic acid** (HOUBEN and ARNOLD), 1908, A., i, 533.
- 4-Methylenebis-3-methyl-5-isooxazolone** (RABE and RAHM), 1904, A., i, 748.
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- Methylenebisorcinol** and its azo-compound (SIMON), 1904, A., i, 406.
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- Methylenebisoxalacetotetra-amide**, and -benzylamidibenzylimide (GAULT), 1907, A., i, 148.
- p*-**Methylenebisphenylenebenzylmethyl-ethylammonium** salts (FRÖHLICH), 1911, A., i, 494.
- p*-**Methylenebisphenylenemethylethyl-allylammonium** salts, and their active forms (FRÖHLICH), 1911, A., i, 494.
- p*-**Methylenebisphenylenemethylpropyl-allylammonium** salts (FRÖHLICH), 1911, A., i, 494.
- Methylenebisphenylmethylpyrazolone** (DAINS and BROWN), 1909, A., i, 782.
- 5-Methylenebis-1-phenyl-3-methylthiopyrazole** and its additive salts (MICHAELIS), 1904, A., i, 780.
- Methylenebistriacetic- $\delta$ -lactone** (DIECKMANN and BREEST), 1904, A., i, 846.
- Methylenebis-2:4:6-trimethoxybenzaldehyde** (HERZIG, WENZEL, and GEHRINGER), 1904, A., i, 252.
- Methylene-blue** (LANDAUER and WEIL), 1910, A., i, 202.
- bleaching of (LASAREFF), 1912, A., ii, 219, 513; (GEBHARD), 1912, A., ii, 513.
- reduction of, by cow's milk (CATHCART), 1906, A., ii, 700.
- reduction of, by milk bacteria (FRED), 1912, A., ii, 1199.
- Methylene-blue**, absorption of, by charcoal (PELET-JOLIVET and SIEGRIST), 1911, A., ii, 374.
- action of, on cotton fibre (BARRATT and EDIE), 1907, A., ii, 847.
- stable positives with (RAMON Y CAJAL), 1912, A., ii, 407.
- physiological action of (UNDERHILL and CLOSSON), 1905, A., ii, 471.
- influence of chloroform on intravital staining with (HERTER and RICHARDS), 1904, A., ii, 756.
- absorption of, by the intestinal epithelium (SCHMIDT), 1906, A., ii, 694.
- action of, on the respiration and fermentation of plants (PALLADIN, HÜBENET, and KORSKOFF), 1911, A., ii, 919.
- combination of silica with (PELET-JOLIVET and ANDERSON), 1909, A., i, 526.
- derivatives of (GNEHM and WALDER), 1908, A., i, 63.
- polyiodo-derivatives of (PELET-JOLIVET and SIEGRIST), 1909, A., i, 527.
- as an indicator in iodometric titrations (SINNATT), 1910, A., ii, 747; 1912, A., ii, 681.
- use of, for estimating sulphonic derivatives of aromatic amino- and hydroxy-compounds (VAUBEL and BARTELT), 1906, A., ii, 207.
- estimation of, volumetrically (PELET and GARUTI), 1904, A., ii, 794.
- Methylene-blue, nitro-**. See Methylene-green.
- Methylene-blue M. E.** (CAIN), 1911, A., i, 437.
- Methylene-blue-eosin** staining, nature of (BARRATT), 1906, A., ii, 785.
- $\alpha$ -**Methylene- $\delta$ -bromovaleric acid** (KJNER and KLAWIKORDOFF), 1911, A., i, 635.
- Methylene-*cyclobutane***. See Vinyltrimethylene.
- Methylenecamphor** (MINGUIN), 1903, A., i, 428.
- Methylenecamphor, hydroxy-** (BRÜHL), 1904, A., i, 139, 600.
- action of magnesium methyl and ethyl iodides on (FORSTER and JUDD), 1905, T., 369; P., 116.
- nitro- (FORSTER and WITHERS), 1911, P., 327; 1912, T., 1331.
- Methylenecamphorecyanocarboxylic acid**. See Camphorylideneacyanoacetic acid.
- Methylenecarbamides** (SENIER and SHEPHEARD), 1909, T., 494; P., 72.

- Methylenecarbamidogallic acid** (VOSWINKEL), 1906, A., i, 961.
- Methylenecatechol.** See Catechol methylene ether.
- Methylenedichloroamine** (CROSS, BEVAN, and BACON), 1910, T., 2404; P., 248.
- Methylene-*p*-chlorophenylacetonitrile**, hydroxy- (V. WALTHER and HIRSCHBERG), 1903, A., i, 495.
- Methylenecitric acid** (FARBENFABRIKEN VORM. F. BAYER & Co.), 1904, A., i, 649.  
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- Methylenecitryl bromide and chloride** (FARBENFABRIKEN VORM. F. BAYER & Co.), 1907, A., i, 1006.
- Methylenecitryloxytoluic acids**, preparation of (FARBENFABRIKEN VORM. F. BAYER & Co.), 1908, A., i, 421.
- Methylenecitrylsalicylic acid**, preparation of (FARBENFABRIKEN VORM. F. BAYER & Co.), 1907, A., i, 1045.
- Methylenediamine** and its dibenzoyl derivative (EINHORN and MAURMAYER), 1906, A., i, 252.
- Methylenedi-*p*-aminobenzoic acid** (BISCHOFF and REINFELD), 1903, A., i, 248.
- Methylenedianisamide** (KNOEVENAGEL and LEBACH), 1904, A., i, 994.
- Methylenedi-*o*-anisidine** (BISCHOFF and REINFELD), 1903, A., i, 248.
- Methylenedibenzamidocarboxylic acid** (EINHORN, BISCHOFF, and SZELINSKI), 1906, A., i, 246.
- Methylenedi-chloroanilines** and -*m*-toluidine (BISCHOFF and REINFELD), 1903, A., i, 247.
- Methylenedicotarnine** and its salts (FREUND and FLEISCHER), 1912, A., i, 491; (FREUND), 1912, A., i, 579.
- Methylenedicroscinol**, reduction of (LUTHER), 1907, A., i, 128.
- Methylenediethylaniline.** See Diphenyldiethylmethylenediamine.
- Methylenedihydrocotarnine** and its salts (FREUND and DAUBE), 1912, A., i, 491.
- Methylenedimethylaniline.** See Diphenyldimethylmethylenediamine.
- Methylene-1:3-dimethyl- $\Delta^2$ -cyclohexen-5-one, 6-hydroxy-**, and its copper salt (RUHEMANN and LEVY), 1912, T., 2551.
- Methylenedimethylsuccinic acid and anhydride** (BONE and HENSTOCK), 1903, T., 1388; P., 248.  
diethyl ester, magnetic rotation and refraction of (PERKIN), 1903, T., 1389; P., 248.
- Methylenedinarcotine** and its salts (FREUND and FLEISCHER), 1912, A., i, 490; (FREUND), 1912, A., i, 579.
- 4:5-Methylenedioxyanthranilic acid, 3-nitro-** (HERZ), 1905, A., i, 779.
- Methylenedioxybenzaldehydeindogenide** (PERKIN and THOMAS), 1909, T., 796; P., 125.
- Methylenedioxy- $\omega$ -benzaldehydephenylhydrazone**, nitro-, and its potassium salt (CIUSA and PESTALOZZA), 1908, A., i, 833.
- 1:2-Methylenedioxybenzene.** See Catechol, methylene ether.
- 1:2-Methylenedioxybenzene-6-azo-*o*-cresol** (MAMELI), 1909, A., i, 854.
- 1:2-Methylenedioxybenzene-5-azo-*p*-cresol** (MAMELI), 1909, A., i, 854.
- 1:2-Methylenedioxybenzene- $\alpha$ -azonaphthalene, 4-amino-** (MAMELI), 1911, A., i, 510.
- 1:2-Methylenedioxybenzeneazo- $\alpha$ - and - $\beta$ -naphthol** (MAMELI), 1909, A., i, 854.
- 1:2-Methylenedioxybenzeneazophenol** (MAMELI), 1909, A., i, 854.
- 1:2-Methylenedioxybenzeneazosalicylic acid** (MAMELI), 1909, A., i, 855.
- 1:2-Methylenedioxybenzenediazoaminobenzene** (MAMELI), 1911, A., i, 510.
- Methylenedioxybenzonitrile**, 3:4-dichloro- (EWINS), 1909, T., 1487; P., 210.
- Methylenedioxybenzosuberone** and its semicarbazone (BORSCHKE), 1911, A., i, 1019.
- Methylenedioxybenzoylacrylic acid.** See Piperonylacrylic acid.
- Methylenedioxybenzoylpropionic acid** and its bromo-derivative (BOUGAULT), 1909, A., i, 102.
- Methylenedioxybenzyl chloride, 3:4-dichloro-** (EWINS), 1909, T., 1485; P., 210.
- 3:4-Methylenedioxybenzylamine** and its derivatives (MANNICH and KUPHAL), 1912, A., i, 218.
- 3:4-Methylenedioxybenzylaminoacetal** and its hydrochloride (MANNICH and KUPHAL), 1912, A., i, 851.
- 3:4-Methylenedioxybenzylaminoacetic acid**, ethyl ester, and derivatives of (MANNICH and KUPHAL), 1912, A., i, 218.



- 3:4-Methylenedioxybenzyl***dichloroacetamide* (MANNICH and KUPHAL), 1912, A., i, 851.
- Methylenedioxybenzyl-cyanoacetic and -malonic acids** (PICCININI), 1904, A., i, 504.
- 6:7-Methylenedioxy-1-benzyl-3:4-dihydroisoquinoline** and its salts (FARBENFABRIKEN VORM. F. BAYER & Co.), 1911, A., i, 1015.
- 3:4-Methylenedioxybenzylidimethylamine** and its salts (TIEFFENEAU), 1911, A., i, 973.
- 3:4-Methylenedioxybenzylethanolamine** and its hydrochloride (MANNICH and KUPHAL), 1912, A., i, 851.
- 3:4-Methylenedioxybenzylidene-p-aminobenzoic acid** (MANSCHOT and FURLONG), 1910, A., i, 34.
- 3:4-Methylenedioxybenzylideneanthranilic acid** (WOLF), 1910, A., i, 736.
- 5-*mp*-Methylenedioxybenzylidene-3- $\psi$ -cumyl-, and 3-*iso*hexyl-rhodanic acids** (KALUZA), 1910, A., i, 130.
- 5-Methylenedioxybenzylidene-diphenylthiohydantoin, -rhodanic acid, and -3-allylrhodanic acid** (ANDREASCH and ZIPSER), 1903, A., i, 856.
- 5:6-Methylenedioxy-2-benzylidene-1-hydrindone, 2'-hydroxy-, and its acetyl derivative** (PERKIN and ROBINSON), 1907, T., 1097.
- 3:4-Methylenedioxybenzylidenerhodanic acid** (BARGELLINI), 1906, A., i, 384.
- $\beta$ -Methylenedioxybenzylidene- $\alpha$ -rhodaninepropionic acid** (ANDREASCH), 1910, A., i, 695.
- 6:7-Methylenedioxy-2-benzyl-1-methyl-3:4-dihydroisoquinoline, 2-chloro-** (FARBENFABRIKEN VORM. F. BAYER & Co.), 1911, A., i, 1015.
- mp*-Methylenedioxybenzyl-5-methyl-1:2:4-triazole, 3-hydroxy-** (RUPE and OESTREICHER), 1912, A., i, 220.
- 3:4-Methylenedioxybenzylsemicarbazide and its derivatives** (RUPE and OESTREICHER), 1912, A., i, 220.
- mp*-Methylenedioxybenzyl-1:2:4-triazole, 3-hydroxy-** (RUPE and OESTREICHER), 1912, A., i, 220.
- 3:4-Methylenedioxy-1- $\beta$ -bromo- $\alpha$ -acetoxy-*n*-propylbenzene, nitro-** (HOERING), 1905, A., i, 592.
- 3:4-Methylenedioxy- $\beta$ -bromo- $\alpha$ -methoxyethylbenzene** (MANNICH and JACOBSON), 1910, A., i, 413.
- Methylenedioxy- $\omega$ -bromostyrene and its dibromide** (HOERING), 1907, A., i, 624.
- 3:4-Methylenedioxy***cinnamic acid, methyl ester* (POSNER), 1911, A., i, 53.
- 3:4-Methylenedioxydihydrochalkone** and its semicarbazone (BARGELLINI and BINI), 1912, A., i, 118.
- 6:7-Methylenedioxy-3:4-dihydroisoquinoline** and its picrate (DECKER), 1912, A., i, 906.
- derivatives of (DECKER)**, 1912, A., i, 1018.
- 3':4'-Methylenedioxy-3:4-dimethoxybenzophenone** (PERKIN, WEIZMANN, and CREETH), 1906, T., 1662.
- 4:5-Methylenedioxy-1- $\beta$ -dimethylaminoethylbenzene, 2-cyano-, and its salts** (RABE and McMILLAN), 1911, A., i, 77.
- Methylenedioxydistearic acid, ethyl ester** (TSCHILIKIN), 1912, A., i, 604.
- Methylene-3:4-dioxyformazylbenzene** and its *p*-sulphonic acid, potassium salt (FICHTER and FRÖHLICH), 1903, A., i, 723.
- 3:4-Methylenedioxy-2':4':5':2'':4'':5''-hexamethoxytriphenylmethane** (SZÉKI), 1911, A., i, 634.
- Methylenedioxyhomophthalic acid** (PERKIN and ROBINSON), 1906, P., 160.
- 3:4-Methylenedioxyhydratropaldehyde** and its semicarbazone (BEHAL and TIEFFENEAU), 1908, A., i, 631.
- and its oxime and semicarbazone** (TIEFFENEAU and DAUFRESNE), 1907, A., i, 515.
- Methylenedioxyhydratropic acid, preparation of** (HOERING), 1908, A., i, 895.
- 5:6-Methylenedioxy-1-hydrindone** and its oxime and isonitroso- and 2-benzylidene derivatives (PERKIN and ROBINSON), 1906, P., 160; 1907, T., 1084.
- 6:7-Methylenedioxy-1-hydrindone, 7-nitro-, and 7-amino-** (PERKIN, ROBINSON, and THOMAS), 1909, T., 1981.
- 5:6-Methylenedioxy-1-hydrindone-2-oxalic acid** (RUHEMANN), 1912, T., 1735.
- 3:4-Methylenedioxy-1- $\alpha$ -hydroxyethylbenzene** (KLAGES and EPPELSHEIM), 1904, A., i, 46.
- 4':5'-Methylenedioxy-2:3-indenobenzopyranol(1:4) anhydroferriehloride** (PERKIN and ROBINSON), 1908, T., 1105.
- Methylenedioxyindophenin** (HERZ), 1905, A., i, 779.
- 5:6-Methylenedioxyisatin** (HERZ), 1905, A., i, 779.

- 3:4-Methylenedioxy mandelic acid and its ethyl ester and amide (BARGER and EWINS), 1909, T., 554.
- Methylenedioxy methoxyhydratropaldehyde and its semicarbazone (RIMINI and OLIVARI), 1907, A., i, 523.
- 6:7-Methylenedioxy-1-methyl-3:4-dihydroisoquinoline and its salts (FARBENFABRIKEN VORM. F. BAYER & Co.), 1911, A., i, 1015.
- 6:7-Methylenedioxy-2-methylquinoline, 4-hydroxy-, and its additive salts and acetyl derivative (HERZ), 1905, A., i, 779.
- Methylenedioxyphenanthrazine (HERZ), 1905, A., i, 780.
- $\beta$ -*mp*-Methylenedioxyphenyl- $\beta$ -3-anisylidenecyclopentan-2-onylpropionophenone (STRIEGLER), 1912, A., i, 782.
- Methylene-3:4-dioxyphenyl- $\alpha$ -benzotriazine (FICHTER and FRÖHLICH), 1903, A., i, 723.
- $\beta$ -*mp*-Methylenedioxyphenyl- $\beta$ -3-benzylidenecyclopentan-2-onylpropionophenone (STRIEGLER), 1912, A., i, 782.
- $\alpha$ -3:4-Methylenedioxyphenyl- $\alpha$ - $\beta$ -*di*-bromo- and - $\beta$ -bromo- $\alpha$ -hydroxyethanes (BARGER and JOWETT), 1905, T., 969; P., 205.
- $\alpha$ -3:4-Methylenedioxyphenylbutan- $\alpha$  ol. See Piperonylpropylcarbinol.
- $\delta$ -Methylenedioxyphenyl- $\Delta^{\alpha}$ -buten- $\delta$ -ol and its oxidation (KORJUKIN), 1911, A., i, 445.
- $\gamma$ -Methylenedioxyphenylbutyric acid,  $\beta$ -iodo- $\alpha$ -*di*hydroxy-, lactone of (BOUGAULT), 1908, A., i, 539.
- Methylenedioxyphenylchloroacetic acid, 3:4-*di*chloro-, ethyl ester (BARGER and EWINS), 1909, T., 558.
- Methylenedioxyphenylchloroacetyl chloride, 3:4-*di*chloro- (BARGER and EWINS), 1909, T., 556.
- Methylenedioxyphenyl*di*chloroacetyl chloride, 3:4-*di*chloro- (BARGER and EWINS), 1909, T., 558.
- Methylenedioxyphenyl- $\beta$ -chloro- $\alpha$ -ethanol (PAULY and NEUKAM), 1909, A., i, 97.
- $\gamma$ -Methylenedioxyphenylcrotonic acid,  $\alpha$ -hydroxy- (BOUGAULT), 1908, A., i, 270.
- Methylenedioxyphenylisocrotonic acid and its iodo-lactone (BOUGAULT), 1908, A., i, 270.
- Methylenedioxyphenyl- $\alpha$ -cyanoacrylic acid, ethyl ester, bromo-derivative (PICCININI), 1905, A., i, 599.
- 6:7-Methylenedioxy-1-phenyl-3:4-dihydroisoquinoline and its methiodide (FARBENFABRIKEN VORM. F. BAYER & Co.), 1911, A., i, 1015.
- 3:4-Methylenedioxyphenyl*di*-2-methylindyl-, -indolidene-, and -1-ethylindyl-methanes (FREUND and LEBACH), 1905, A., i, 666.
- $\alpha$ -3:4-Methylenedioxyphenylethane,  $\alpha$ -*di*chloro-,  $\alpha$ -*tert*-butylchloro-, and  $\beta$ -chloro- $\alpha$ -hydroxy- (BARGER), 1908, T., 2083; P., 237.
- $\alpha$ -*di*chloro-,  $\beta$ -chloro- $\alpha$ -hydroxy-, *di*-chloro- $\alpha$ -hydroxy-, chloro- $\beta$ -bromo- $\alpha$ -hydroxy-, and its acetate, and tetrabromo- (BÖTTCHER), 1909, A., i, 153.
- $\beta$ -3:4-Methylenedioxyphenylethyl*di*-methylamine,  $\beta$ -hydroxy-, and its benzoyl derivative and their additive salts (PYMAN), 1908, T., 1806; P., 208.
- 3:4-Methylenedioxyphenylglyoxylic acid and its methylamide (BARGER and EWINS), 1909, T., 555.
- 3:4-Methylenedioxyphenylglyoxylo-nitrile (EWINS), 1909, T., 1487; P., 210.
- 3:4-Methylenedioxyphenylhydroxyacetimino-ethyl ether, hydrochloride (BARGER and EWINS), 1909, T., 554.
- $\beta$ -3:4-Methylenedioxyphenyl- $\beta$ -hydroxyethylmethylamine and its salts (BARGER and JOWETT), 1905, T., 970; P., 205.
- 5:6-Methylenedioxy-1-phenyl-4:5-indenopyrazole-3-carboxylic acid (RUHEMANN and LEVY), 1912, T., 2545.
- $\beta$ -*mp*-Methylenedioxyphenyl- $\beta$ -4-methylcyclohexan-2-onylpropionophenones and their derivatives (STRIEGLER), 1912, A., i, 783.
- 3:4-Methylenedioxyphenyl- $\beta$ -1-naphthylpropionic acid (FOSSE), 1906, A., i, 976.
- $\beta$ -3:4-Methylenedioxyphenyl- $\beta$ -1-naphthyl- and - $\beta$ -*p*-tolyl-propionic acids and their salts (FOSSE), 1907, A., i, 136.
- $\beta$ -*mp*-Methylenedioxyphenyl- $\beta$ -2-cyclopentanonylpropionophenone and its derivatives (STRIEGLER), 1912, A., i, 781.
- $\delta$ -3:4-Methylenedioxyphenyl- $\Delta$ - $\gamma$ -pentenoic acid,  $\beta$ -amino-. See  $\alpha$ -Hydropiperic acid,  $\beta$ -amino-.
- $\beta$ -*mp*-Methylenedioxyphenyl- $\beta$ -3-piperonylidene-cyclopentan-2-onylpropionophenone (STRIEGLER), 1912, A., i, 782.

- $\alpha$ -3:4-Methylenedioxyphenylpropane.**  
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- 3:4-Methylenedioxyphenylcyclopropanol** and its acetate (TIFFENEAU and DAUFRESNE), 1907, A., i, 515.
- Methylenedioxy- $\beta$ -phenylpropionyl chloride,**  $\alpha\beta$ -dichloro-3:4-dichloro- (CLARKE), 1910, T., 896; P., 96.
- $\alpha$ -3:4-Methylenedioxyphenylpropyl alcohol.** See Ethylpiperonylcarbinol.
- 3:4-Methylenedioxyphenylisopropylamine** (MANNICH and JACOBSON), 1910, A., i, 168.
- Methylenedioxyphenylpyruvic acid** and its oxime (KROPP, DECKEL, and ZOELLNER), 1909, A., i, 389.
- $\delta$ -3:4-Methylenedioxyphenylvaleric acid,**  $\beta$ -iodo- $\gamma$ -hydroxy-, lactone of (BOUGAULT), 1908, A., i, 537.
- Methylenedioxyphthalidicarboxylic acid** (RUHEMANN), 1912, T., 783.
- Methylene-3:4-dioxy-1-propylbenzene.**  
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- 3:4-Methylenedioxystyrene,** chlorohydrin and tribromide of, and chlorohydrin dibromide and bromohydrin of its cyclic carbonate (PAULY and NEUKAM), 1909, A., i, 96.
- 3:4-Methylenedioxystyrene,**  $\beta$ -chloro-, and its dibromide (PAULY and NEUKAM), 1909, A., i, 97.
- Methylenedioxystyryl cinnamylidene-methyl ketone** (*piperonylidene-cinnamylideneacetone*) and its hydrochloride and bromides (FRANCESCONI and CUSMANO), 1908, A., i, 802.
- 2-Methylenedioxystyryl-4-dihydroquinazolinone** (BOGERT and BEAL), 1912, A., i, 395.
- 3:4-Methylenedioxystyryldihydrouracil** (POSNER and ROHDE), 1910, A., i, 848.
- 2-Methylenedioxystyryl-8-methylquinoline** and its additive salts (HOFFMANN), 1906, A., i, 40.
- Methylenedioxytetrahydroisoquinoline** and its nitrobenzoyl derivative (PICTET and GAMS), 1911, A., i, 483.
- Methylenedioxy-4':4''-tetramethyldiaminotriphenylmethane** and 2':2''-dihydroxy- (LIEBERMANN), 1903, A., i, 860.
- 3:4-Methylenedioxytoluene,**  $\omega$ -bromodinitro- and  $\omega$ -chlorodinitro- (PONZIO and CHARRIER), 1908, A., i, 522.
- 3':4'-Methylenedioxy-2:4:6-trimethoxybenzophenone** (*acrylenectin*), synthesis of (PERKIN and ROBINSON), 1906, P., 306.
- 3:4-Methylenedioxy-2':4':5'-trimethoxychalkone.** See 2:4:5-Trimethoxyphenyl 3:4-methylenedioxystyryl ketone.
- Methylenedi-*o*-phenetidine** and its platinichloride (DAINS and BROWN), 1909, A., i, 781.
- Methylenediphenylcarbamide** (SENIER and SHEPHEARD), 1909, T., 504.
- Methylenediphenylglycinetetracarboxylic acid** and its esters (HELLER and MICHEL), 1903, A., i, 834.
- Methylenedipyrroles,** 1:1- and 2:2- (PICTET and RILLIET), 1907, A., i, 445.
- Methylenediresorcinol,** reduction of (LUTHER), 1907, A., i, 128.
- Methylenedi-salicylamide** and its benzoyl derivatives and *-isovaleramide* (EINHORN, SCHUPP, and SPRÖNGERTS), 1906, A., i, 248.
- Methylenedisalicylic acid.** See Methanedisalicylic acid.
- Methylene-dithiolacetic acid** and its ethyl ester and salts and *-di- $\alpha$ -thiolpropionic acid* (HOLMBERG and MATTISSON), 1907, A., i, 475.
- Methylenediurethane** (CONRAD and HOCK), 1903, A., i, 607.
- Methylenedixylorcinol** (LUTHER), 1907, A., i, 128.
- Methylenedi-*p*-xylylamine** (AUWERS), 1907, A., i, 917.
- Methylenefluorene,** amino-, and cyano- (WISLICENUS and RUSS), 1910, A., i, 840.
- Methyleneglutaconamic acid,**  $\gamma$ -bromo- $\alpha$ -amino-, methyl ester, di-2:5-dimethyl- and -diphenyl-triazolyl derivatives (BÜLOW and WEBER), 1909, A., i, 613.
- Methylene-green** (*nitromethylene-blue*) and its additive salts (GNEHM and WALDER), 1906, A., i, 390; (GRANDMOUGIN and WALDER), 1906, A., i, 772.  
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- Methylene group,** new synthesis effected by molecules containing a, attached to two negative radicles (HALLER and MARCH), 1903, A., i, 318, 714.  
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- Methylene group**, behaviour of chloroform towards the (KÖTZ and ZÖRNIG), 1907, A., i, 111.
- estimation of loosely combined (VOTOČEK and VESELÝ), 1907, A., i, 243.
- Methylenecycloheptane** (WALLACH and KÖHLER), 1906, A., i, 818.
- 5-Methylenhexahydropyrimidine-4,6-dicarboxylamide** and its additive metallic salts, and the action of bromine and of nitrous acid on it (ULPIANI and PANNAIN), 1903, A., i, 863.
- Methylenecyclohexane** and its dibromide, chloronitrosite, and piperidine (FAWORSKY and BORGMANN), 1908, A., i, 15.
- and its oxidation and nitrosochloride and nitrolamine with piperidine (WALLACH and ISAAC), 1906, A., i, 564.
- $\gamma$ -Methylenehexan- $\delta$ -one** (BLAISE and MAIRE), 1909, A., i, 85.
- Methylenehippuric acid**, preparation of (CHEMISCHE FABRIK AUF AKTIEN VORM. E. SCHERING), 1904, A., i, 413; 1906, A., i, 499.
- Methylenehippuric acid**, hydroxy-, ethyl sodium salt (ERLENMEYER), 1903, A., i, 29.
- m*-nitro- (CHEMISCHE FABRIK AUF AKTIEN VORM. E. SCHERING), 1904, A., i, 889.
- Methylenhomophthalic acid**, hydroxy-, esters, and their isocoumarin and isocarbostyryl derivatives (DIECKMANN and MEISER), 1908, A., i, 894.
- $\alpha$ -Methylenehydantoic acid**, dibromo-, and its methyl ester (GABRIEL), 1906, A., i, 635.
- $\alpha$ -Methylenehydantoin**, bromo-, and the action of bromine on (GABRIEL), 1906, A., i, 634.
- Methylenhydrazine**, polymeric, and its reactions (STOLLÉ), 1907, A., i, 496.
- Methylene-1-hydrindone**, 2-hydroxy-, and its derivatives (RUHEMANN and LEVY), 1912, T., 2546; P., 316.
- 1-Methylene-2-hydrindone**, 3:3-dichloro-5-bromo- (FRIES and HEMPELMANN), 1909, A., i, 810.
- Methylene hydrocarbons** of various ring systems, the simplest, and their conversion into alicyclic aldehydes (WALLACH, BESCHKE, EVANS, and ISAAC), 1906, A., i, 563; (WALLACH and KÖHLER), 1906, A., i, 818.
- Methyleneiminosulphonic acid**, ammonium and sodium salts (CHEMISCHE FABRIK VON HEYDEN), 1909, A., i, 704.
- Methyleneindandione**, amino- (ERRERA), 1903, A., i, 266.
- amino-, and hydroxy- and its metallic derivatives (ERRERA), 1903, A., i, 854.
- Methyleneindigotin** and its sulphonic acid, and leuco-derivative and its acyl compounds (HELLER and MICHEL), 1903, A., i, 835.
- Methyleneisatin** (HELLER and MICHEL), 1903, A., i, 835.
- Methylenementhone**, hydroxy- (SEMMLER and MCKENZIE), 1906, A., i, 374.
- preparation of (BRÜHL), 1904, A., i, 601.
- Methylene-5:6-methylenedioxy-1-hydrindone**, 2-hydroxy-, and its anilide (RUHEMANN and LEVY), 1912, T., 2549.
- Methylene-3-methylene-3-methylcyclopentan-1-one**, 5-hydroxy-, and its derivatives (RUHEMANN and LEVY), 1912, T., 2551.
- Methylenemethyl ethyl ketone** (FARBEN-FABRIKEN VORM. F. BAYER & CO.), 1910, A., i, 652.
- 4-Methylene-1-methylcyclohexane**, preparation of (PERKIN and POPE), 1911, T., 1514.
- Methylenemethylol-2-picoline** and its additive salts and acyl derivatives (LIFF and RICHARD), 1904, A., i, 343.
- Methylene-mono- and di- $\beta$ -naphthylamines** (MÖHLAU and HAASE), 1903, A., i, 127.
- $\delta$ -Methyleneoctane** (CLARKE and RIEGEL), 1912, A., i, 405.
- Methyleneoxyuvitic acid** (CHEMISCHE FABRIK AUF AKTIEN VORM. E. SCHERING), 1905, A., i, 703.
- Methylenecyclopentane** and its oxidation and nitrosochloride, and nitrolamine with piperidine (WALLACH), 1906, A., i, 563.
- Methylenephnylhydrazonocarboxylic acid**, *o*-mono- and *o*-*p*-dibromo- and *o*-bromo-*p*-chloro-, menthyl esters (LAPWORTH), 1903, T., 1126; P., 150.
- Methylenephnyl- $\alpha$ -naphthylcarbamide** (SENIER and SHEPHEARD), 1909, T., 501.
- Methylenephthalide**, amino-, and its isomeride (GABRIEL), 1907, A., i, 1042.

- Methylenephthalide**, *mono-* and *di-*bromo-, hydroxy-, and its azine and oxime and its acetyl and phenylhydrazone derivatives and dibromide (GABRIEL), 1907, A., i, 215, 1042. nitro- (GABRIEL), 1903, A., i, 345.
- Methylenepyrrotartaric acid**,  $\beta$ -hydroxy-, ethyl ester (FICHTER and RUDIN), 1904, A., i, 472.
- Methylenesuberene** and its oxidation, nitroschloride, and oxime (WALLACH), 1906, A., i, 371.
- Methylenetanninacetamide** (VOSWINKEL), 1906, A., i, 527.
- Methylenetannincarbamide** (VOSWINKEL), 1905, A., i, 805.
- Methylene-*ar*-tetrahydro- $\beta$ -naphthylamine** (SMITH), 1904, T., 733; P., 111.
- Methylene-*p*-tolylphenylhydrazoncarb-oxylic acid**, bromo-, menthyl ester (LAPWORTH), 1903, T., 1128; P., 150.
- Methylene-di-*o*-tolyl-*o*-xylylenediamine** (SCHOLTZ and WOLFRUM), 1910, A., i, 772.
- Methylenetrihydrofuranoxime** and its compound with hydrogen chloride (SCHEDA), 1903, A., i, 509.
- Methyl- $\psi$ -ephedrine** and its salts (SCHMIDT and ENDE), 1906, A., i, 978.
- Methylethenylbenzene dibromide**. See *iso*Propylbenzene, *ab*-dibromo-.
- Methylethylacetaldehyde**. See  $\alpha$ -Methylbutaldehyde.
- $\alpha\alpha$ -**Methylethylacetone**. See Methyl  $\alpha$ -methylpropyl ketone.
- Methylethylacetophenone** (DUMESNIL), 1911, A., i, 719.
- Methylethylacraldehyde**, condensation of, with isobutaldehyde (MORAWETZ), 1905, A., i, 262. action of alcoholic potash on (V. LENZ), 1903, A., i, 460. action of Grignard reagents on (BIELOUSS), 1910, A., i, 706.
- $\beta$ -**Methyl- $\beta$ -ethylacrylic acid** and its anilide (GARDNER and HAWORTH), 1909, T., 1962.
- $\beta$ -**Methyl- $\beta$ -ethylacrylonitrile** (GARDNER and HAWORTH), 1909, T., 1961.
- Methylethylisobutylcarbinol**. See  $\delta$ -Methyl- $\Delta\beta$ -hexen- $\delta$ -ol.
- 1-Methyl-5-ethyl-3-allyl- $\Delta^1$ -cyclohexen-3-ol** (MATSCHEWITSCH), 1911, A., i, 962.
- p*-Methylethylamino-benzaldehyde** and its phenylhydrazone and -benzylidene-*p*-aminodimethylaniline (ULLMANN and FREY), 1904, A., i, 423.
- p*-Methylethylaminobenzoic acid** (HOUBEN, SCHOTTMÜLLER, and BRASSERT), 1909, A., i, 922.
- $\delta$ -Methylethylamino- $\delta$ -methyl- $\Delta^{\alpha}$ -amylene** (KOHN and MORGENSTERN), 1907, A., i, 682.
- N*-Methylethyl- $\alpha$ -amino- $\beta$ -naphthol**, and its hydriodide, sulphocamphylate, and acetyl derivative (LEES and SHEDDEN), 1903, T., 761; P., 133.
- N*-Methylethyl-*o*-aminophenol** hydrochloride (LEES and SHEDDEN), 1903, T., 753; P., 132.
- 4-Methylethylamino-1-phenyl-2:3-dimethyl-5-pyrazolone** (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1904, A., i, 196.
- 4-Methylethylaminophenylimino-3-phenylisooxazolone** (MEYER), 1911, A., i, 687.
- Methylethylammonium chlorides**, preparation of (MACKENZIE), 1912, A., i, 9.
- Methylethylisobutylcarbinol** (KONOWALOFF), 1904, A., i, 496.
- Methylethyl*tert*-amylcarbinol**, synthesis of (KONOWALOFF, MILLER, and TIMTSCHENKO), 1907, A., i, 170.
- N*-Methylethylaniline**, *p*-bromo-, and its methiodide and picrate (HILL), 1907, A., i, 692.
- $\omega$ -cyano- (BADISCHE ANILIN- & SODA-FABRIK), 1905, A., i, 340.
- p*-nitroso-, and its hydrochloride (CAIN), 1911, A., i, 437.
- Methylethylanilinesulphonic acid** and its salts (JONES and MILLINGTON), 1904, A., i, 867.
- Methylethylanthranilic acid**, methyl ester (HOUBEN and ETTINGER), 1909, A., i, 794.
- Methylethylazethane** (DIELS and VOM DORF), 1903, A., i, 862.
- 5:5-Methylethylbarbituric acid** (GERHARD VON NIESSEN), 1903, A., i, 799.
- 1-Methyl-3-ethylbenzene** (*m*-ethyltoluene), preparation and nitration of (BARTOW and SELLARDS), 1905, A., i, 424.
- 1-Methyl-3-ethylbenzene**, 6-amino-, and its sulphate, and 6-iodo-, -iodoso-, -iodoxy-, and -iodinium compounds of (WILGERODT and BRANDT), 1904, A., i, 657.
- $\beta\beta$ -**dichloro-** (AUWERS and HESSEN-LAND), 1907, A., i, 400.
- 6-iodo-, 6-iodoso-, and 6-iodoxy- (WILGERODT and JAHN), 1912, A., i, 21.

- 1-Methyl-4-ethylbenzene (*p*-ethyltoluene), and  $\omega$ -dichloro- and nitro-derivatives (AUWERS and KEIL), 1903, A., i, 621.  
 $\beta$ -trichloro- (ZINCKE and SCHWABE), 1908, A., i, 337.  
3:5-dichloro-4- $\beta\beta$ -dichloro- (AUWERS), 1911, A., i, 384.
- 2-Methyl-1-ethylbenzimidazole, 4:7-dinitro-6-hydroxy-, synthesis of (MELDOLA), 1906, T., 1941.
- 3-Methyl-2-ethylbenzopyranol (DECKER and v. FELLEBERG), 1909, A., i, 117.
- 3-Methyl-2-ethylbenzopyronium ferri-chloride (DECKER and v. FELLEBERG), 1909, A., i, 117.
- 6-Methyl-5-ethyl-1:3:7:9-benzotetrazole, 4-hydroxy-, and its salts (BÜLOW and HAAS), 1910, A., i, 80.
- Methylethyl- $\Delta\beta$ -butenoic acids,  $\alpha\beta$ - and  $\beta\alpha$ -,  $\gamma$ -cyano- (GUARESCHI), 1907, A., i, 1003.
- $\alpha$ -Methyl- $\alpha$ -ethyl-*n*-butyramide (HALLER and BAUER), 1909, A., i, 131.
- $\alpha$ -Methyl- $\gamma$ -ethylbutyrolactone, hydrazine compound of (BLAISE and LUTTINGER), 1905, A., i, 330.
- $\beta$ -Methyl- $\alpha$ -ethylbutyl alcohol and its esters (FOURNEAU and TIFFENEAU), 1907, A., i, 818.
- Methylethylisobutylmethane. See  $\beta\delta$ -Dimethylhexane.
- $\beta$ -Methyl- $\alpha$ -ethylbutyric acid,  $\alpha$ -hydroxy-, and its ethyl ester (DARZENS), 1911, A., i, 260.
- Methylethylcarbinol and its hydrogen succinate (PICKARD and KENYON), 1911, T., 59, 64.  
and its tartrates (RICHE), 1909, A., i, 126.
- d*-Methylethylcarbinol, hydrogen phthalate, and its brucine and strychnine salts (PICKARD and KENYON), 1911, T., 60.
- $\beta$ -Methyl- $\beta$ -ethylcholine chloride and platinichloride (MENGE), 1912, A., i, 74.
- 4-Methyl-1-ethylcoumaranone (AUWERS), 1912, A., i, 1011.
- Methylethylcreatinine platinichloride (HENZERLING), 1911, A., i, 22.
- $\beta$ -Methyl- $\alpha$ -ethylcrotonic acid,  $\gamma$ -cyano-, ethyl ester (BLAND and THORPE), 1912, T., 889.
- Methylethylacetonealkamine. See Methyl- $\beta$ -methylethylaminoisobutylcarbinol.
- $\alpha$ -Methyl- $\alpha'$ -ethyl diglycollic acid and its ethyl ester, anhydride, and diamide (JUNGFLEISCH and GODCHOT), 1908, A., i, 127.
- 10-Methyl-9-ethyl dihydroacridine (FREUND and BODE), 1909, A., i, 515.
- 2-Methyl-3-ethyl dihydroindole and its derivatives (KÖNIG and BECKER), 1912, A., i, 496.
- 3-Methyl-6-ethyl dihydropyrazoquinazolinone (MICHAELIS, KRUG, LEO, and ZIESEL), 1910, A., i, 514.
- 2-Methyl-3-ethyl-4-dihydroquinazolinone ethiodide and methiodide (BOGERT and GEIGER), 1912, A., i, 511.  
6-amino- (BOGERT and GEIGER), 1912, A., i, 396.
- 1-Methyl-2-ethyl dihydroquinoline and its platinichloride (FREUND and RICHARD), 1909, A., i, 417.
- 2-Methyl-1-ethyl-1:2-dihydroisquinoline and its tetrahydro-derivative and its methiodide (FREUND and BODE), 1909, A., i, 516.
- 4'-Methyl-5-ethyl dihydro-2-stilbazole and its additive salts (LANGER), 1906, A., i, 38.
- 4-Methyl-1- and -3-ethyl dihydrouracils, 5:5-dibromo-4-hydroxy- (BÜCKENDORFF), 1912, A., i, 54.
- Methyl ethyl diketone (*acetylpropionyl*) mono-acetylhydrazone and its methyl ether, and -semicarbazone, and their sodium derivatives (DIELS and vom DORP), 1903, A., i, 862.  
bis-semicarbazone (RUPE and KESSLER), 1910, A., i, 94.
- Methylethyldimethylaminomethylcarbinol (*dimethylaminotert.-amyl alcohol*) and its benzoate hydrochloride (FOURNEAU), 1904, A., i, 377.  
benzoate hydrochloride (*stovaine*) and its homologues, physical and physiological properties of (VELEY and SYMES), 1911, A., ii, 516.  
and cocaine, comparative action of (VELEY and WALLER), 1910, A., ii, 228.  
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toxicity of (LAUNOY and BILLON), 1901, A., ii, 501; (LAUNOY), 1905, A., ii, 49.  
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- Methylethyldi- $\psi$ -quinol. tetrabromo- and dichlorodibromo- (ZINCKE and BUFF), 1905, A., i, 882.
- as*-Methylethylethylene. See  $\beta$ -Methyl- $\Delta\alpha$ -butylene.
- Methylethylfulvene (THIELE and BALHORN), 1906, A., i, 639.



**Methylethylfumaric acid** and its salts (FICHTER and RUDIN), 1904, A., i, 473.

**$\beta$ -Methyl- $\alpha$ -ethylglutaconic acid** and its derivatives (BLAND and THORPE), 1912, T., 1569.

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**$\alpha$ -Methyl- $\gamma$ -ethylglutaconic acid**, preparation of, and its ethyl ester (THOLE and THORPE), 1911, T., 2205.

**$\beta$ -Methyl- $\gamma$ -ethylglutaconic acid**,  $\alpha$ -cyano-, ethyl ester (BLAND and THORPE), 1912, T., 888.

**$\alpha$ -Methyl- $\gamma$ -ethylglutaric acid**,  $\alpha$ - $\gamma$ -dihydroxy-, derivatives of (FITTIG and V. PANAYEFF), 1907, A., i, 473.

**$\beta\beta$ -Methylethylglutaric acid**, and its anhydride and  $\alpha$ -naphthylamine derivative (THOLE and THORPE), 1911, T., 440.

**$\beta\beta$ -Methylethylglutarimide** and its silver salt (THOLE and THORPE), 1911, T., 439.

**$\beta$ -Methyl- $\beta$ -ethylglycidic acid**, ethyl ester (CLAISEN), 1905, A., i, 288.

**Methylethylglyoxime**, cobalt derivatives of (TSCHUGAEFF), 1907, A., i, 905.

**Methylethylguanidine**, platinichloride (HENZELING), 1911, A., i, 21.

**$\beta$ -Methyl- $\gamma$ -ethyl- $\Delta^{\alpha\epsilon}$ -hexadiene**. See Ethylallylisopropenylmethane.

**1-Methyl-3-ethylcyclohexane** (MAILHE and MURAT), 1911, A., i, 126.

**1-Methyl-2-ethylcyclohexan-2-ol** and its acetyl derivative (MURAT), 1909, A., i, 146.

**1-Methyl-3-ethylcyclohexan-3-ol**, derivatives of (MAILHE and MURAT), 1911, A., i, 126.

**1-Methyl-4-ethylcyclohexan-3-one-4-carboxylic acid**, ethyl ester, and its semicarbazide (KÖTZ), 1908, A., i, 24.

**1-Methyl-3-ethylcyclohexene** and its nitrosochloride (MAILHE and MURAT), 1911, A., i, 126.

**$\beta$ -Methyl- $\gamma$ -ethyl- $\Delta^{\beta}$ -hexen- $\delta$ -one** and its semicarbazone (BLAISE and MAIRE), 1909, A., i, 86.

**2-Methyl-3-ethylhydantoin** (GABRIEL), 1906, A., i, 636.

**$\alpha$ -4 Methyl-4-ethylhydantoin** (DAKIN), 1910, A., i, 591.

**$\alpha\alpha$ -Methylethylhydracrylic acid** and its potassium and alkaloidal salts, and ethyl ester, and its acetyl derivative (BLAISE and MARCILLY), 1904, A., i, 367.

**Methylethyl- $\beta$ -hydroxyethylamine** hydrochloride and aurichloride (EMMERT), 1912, A., i, 253.

**Methylethylhydroxylamines**,  $\alpha\beta$ - and  $\beta\alpha$ -, and their additive salts (JONES), 1907, A., i, 897.

**2-Methyl-3-ethyl-4-hydroxyquinazoline** and its platinichloride (BOGERT and HEIDELBERGER), 1912, A., i, 216.

**1-Methyl-3-ethylidenecyclohexane** and its nitrosochloride and nitrolpiperidide (WALLACH and EVANS), 1908, A., i, 404.

**1-1-Methyl-3-ethylidenecyclohexane** and its derivatives (HAWORTH, PERKIN, and WALLACH), 1911, T., 127.

**1-Methyl-4-ethylidenecyclohexane** and its nitrosochloride and nitrolpiperidide (WALLACH and EVANS), 1908, A., i, 404.

nitrosochloride (WALLACH and RENTSCHLER), 1909, A., i, 384.

**3-Methyl-2-ethylisoinolinone**, 3-hydroxy- (SACHS and LUDWIG), 1904, A., i, 267.

**$\gamma$ -Methyl- $\alpha$ -ethylitaconic acid** and its anhydride (FICHTER and OBLADEN), 1910, A., i, 87.

**$\gamma$ -Methyl- $\alpha$ -ethylitacon- $\gamma$ -tolil** (FICHTER and OBLADEN), 1910, A., i, 88.

**Methyl ethyl ketone** (*methylacetone*), chlorination of (KLING), 1905, A., i, 172.

action of ammonia on (TRAUBE), 1908, A., i, 362; 1909, A., i, 12; (THOMAE), 1908, A., i, 762.

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**Methyl ethyl ketone**, amino-, and its salts and reactions (KOLSHORN), 1904, A., i, 675.

- Methyl ethyl ketone**, *di*hydroxy-, and its benzoylacetyl derivative (DIELS and STEPHAN), 1909, A., i, 473.
- isonitroso*-, methyl ether, and its oxime, phenylhydrazone, and semicarbazone (CHARRIER), 1907, A., i, 829.
- Methylethyl ketone ammonia** (THOMAE), 1905, A., i, 509.
- Methylethylketonesulphoxylic acid**, sodium salt (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1909, A., i, 455.
- Methylethylketoxime**, heat of combustion of (ZUBOFF), 1904, A., ii, 160.
- O*-methyl ether of, and its platinumchloride (PONZIO and CHARRIER), 1907, A., i, 386.
- $\beta$ -Methyl- $\beta$ -ethyl-lactic acid** and its salts (MEBUS), 1905, A., i, 508.
- Methylethylmaleanilide** (FICHTER and RUDIN), 1904, A., i, 473.
- Methylethylmaleic acid**, methyl ester, anhydride and imide of (KÜSTER, GALLER, HAAS, and MEZGER), 1906, A., i, 337.
- Methylethylmalic acid**, synthesis of, and its salts (SHDANOVITSCH), 1908, A., i, 77.
- Methylethylmalonamic acid**, methyl ester (MEYER), 1906, A., i, 138.
- Methylethylmalonic acid**, *s*-phenylmethylhydrazide (MICHAELIS and SCHENK), 1909, A., i, 59.
- methyl ester, and amide of (MEYER), 1906, A., i, 138; (BÖTTCHER), 1906, A., i, 340.
- iodo-, ethyl ester (KÖTZ and ZÖRNIG), 1907, A., i, 112.
- Methylethylmalonylantipyrine**. See 1-Phenyl-2:4-dimethyl-4-ethyl-3:5-pyrazolidone.
- Methylethylmalonylethylmalonamide** (REMFREY), 1911, T., 618.
- Methylethylmalonylmalonamide** (REMFREY), 1911, T., 616.
- 2-Methyl-3-ethyl-4-methylene-1:4-benzopyran**, 7-hydroxy-, hydrochloride and picrate of (BÜLOW and DEIGLMAYER), 1905, A., i, 149.
- 2-Methyl-10-ethyl-1:2-naphthaacridinium** *p*-toluenesulphonate, 3-amino-, acetyl derivative (ULLMANN and WENNER), 1903, A., i, 407.
- Methylethylnonylcarbinol** (SAYTZEFF and UNANOFF), 1911, A., i, 415.
- Methylethylolivil** (KOERNER and VANZETTI), 1912, A., i, 352.
- Methylethylisoolivil** (KOERNER and VANZETTI), 1912, A., i, 353.
- 2-Methyl-6-ethylolpiperidine**, and its derivatives (LÖFFLER and REMMLER), 1910, A., i, 633.
- 2-Methyl-6-ethylolpyridine**, derivatives of, and condensation product of, with benzaldehyde, and its platinumchloride (LÖFFLER and THIEL), 1909, A., i, 182.
- 3-Methyl-1-ethylsotriazole**, 4-bromo- and 4-chloro- (TAMBURELLO and MILAZZO), 1907, A., i, 1088.
- 3-Methyl-1-ethylsotriazole-4-carboxylic acid** and its calcium salt and its cyanide (PERATONER and AZZARELLO), 1907, A., i, 980.
- Methylethylloxalacetic acid**, ethyl ester (MEBUS), 1905, A., i, 507.
- $\gamma$ -Methyl- $\alpha$ -ethylparaconic acid** (FICHTER and OBLADEN), 1910, A., i, 87.
- $\beta$ -Methyl- $\gamma$ -ethylpentane** and  **$\beta$ -iodo-** (CLARKE), 1908, A., i, 493.
- $\gamma$ -Methyl- $\gamma$ -ethylpentane** (TAFEL and JÜRGENS), 1909, A., i, 545.
- $\beta$ -Methyl- $\gamma$ -ethylpentane- $\beta$ -diol** (PARRY), 1911, T., 1171; P., 141.
- $\beta$ -Methyl- $\gamma$ -ethylpentan- $\beta$ -ol** (CLARKE), 1908, A., i, 493.
- $\beta$ -Methyl- $\alpha$ -ethyl- $\Delta^{\alpha}$ -pentenoic acid**, its ethyl ester, bromide, and metallic salts (MATSCHEVITSCH), 1910, A., i, 815.
- d*- and *l*-**Methylethylphenacylthetine** salts, rotation of (TAYLOR), 1912, T., 1124; P., 148.
- 2-Methyl-4-ethylphenyl iododichloride** (WILLGERODT and JAHN), 1912, A., i, 21.
- 2-Methyl-4-ethylphenyl*di*chlorovinyl-iodonium hydroxide**, salts of (WILLGERODT and JAHN), 1912, A., i, 22.
- $\delta$ -Methyl- $\alpha$ -ethylpimelic acid** and its ethyl ester and silver salt (KÖTZ), 1908, A., i, 24.
- 3-Methyl-1-ethylpiperidine**, amino-. See 1-Ethyl- $\beta$ -pipercoline,  $\omega$ -amino-.
- 1-Methyl-3-ethylpiperidine** and its additive salts (LIPP and WIDMANN), 1905, A., i, 610, 662.
- 2-Methyl-6-ethylpiperidines**, and their separation and resolution, and salts (LÖFFLER and THIEL), 1909, A., i, 183.
- 1-Methyl-2-ethylcyclopropane** (PESCHEVALSKY), 1909, A., i, 449.
- $\beta\beta$ -Methylethylpropane- $\alpha\alpha\gamma\gamma$ -tetracarboxylic acid**, *di*-imino-*di*-imine and *di*-imide of, and their derivatives (THOLE and THORPE), 1911, T., 441.
- $\beta$ -Methyl- $\alpha$ -ethyl- $\Delta^{\alpha}$ -propenylbenzene** and its dibromide (KLAGES and HAEN), 1904, A., i, 497.

- $\alpha$ -Methyl- $\alpha$ -ethyl- $\alpha$ -propylacetophenone** and its oxime (HALLER and BAUER), 1909, A., i, 109.
- 1-Methyl-2-ethyl-4-isopropylbenzene** (KLAGES and SOMMER), 1906, A., i, 567.  
optical constants of, and its sulphon-anilide (KLAGES), 1907, A., i, 598.
- Methylethylpropylisobutylammonium hydroxide**, attempted resolution of (WEDEKIND), 1912, A., i, 948.  
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- Methylethylpropyl- $\beta$ -hydroxyethylammonium** auric- and platinum-chlorides (EMMERT), 1912, A., i, 253.
- $d$ -Methylethylpropylmethane.** See  $\beta$ -Ethylpentane.
- 4-Methyl-3-ethyl-1-propyluracil** (BÜCKENDORFF), 1912, A., i, 55.
- 3-Methyl-1-ethylpyrazole**, 5-chloro-, ethiodide (MICHAELIS and LACHWITZ), 1910, A., i, 641.
- 5-Methyl-2-ethyl-3-pyrazolidone**, 1-nitroso- (MUCKERMANN), 1911, A., i, 815.
- 3-Methyl-4-ethylpyrazolone** (LOCQUIN), 1904, A., i, 552.
- 2-Methyl-3-ethylpyridine** and its salts (KOENIGS, BERNHART, and IBELE), 1906, A., i, 742.
- 4-Methyl-3-ethylpyridine**, reduction of, with sodium and alcohol (KOENIGS and BERNHART), 1905, A., i, 824.
- 2-Methyl-5-ethylpyridine**, condensation of, with aldehydes (LANGER), 1906, A., i, 38.
- 4-Methyl-5-ethylpyridine**, 2:6-*di*hydroxy-, and its hydrochloride and benzoyl and isonitroso-derivatives (ROGERSON and THORPE), 1905, T., 1709; P., 239.
- 2-Methyl-6-ethylpyridine**, aurichloride, pierate, and platinichloride of (LÖFFLER and THIEL), 1909, A., i, 183.
- 4-Methyl-3-ethylpyridine-5-carboxylic acid**, 2:6-*di*hydroxy-, ethyl ester, and its hydrochloride (ROGERSON and THORPE), 1905, T., 1713.
- 2-Methyl-5-ethylpyridine-3-carboxylic acid**, 6-hydroxy-, and its ethyl ester (ERRERA and LABATE), 1904, A., i, 190.
- 4-Methyl-5-ethylpyrimidine**, amino-, 2-amino-6-hydroxy-, aminothio-, chloro-, chloroamino-, 2:6-*di*hydroxy-, and thio-derivatives of, and their salts (BYK), 1903, A., i, 657.  
2-cyanoamino-6-hydroxy- (POHL), 1908, A., i, 577.
- 4-Methyl-3-ethyl- $\alpha$ -pyrone**, 6-hydroxy- (BLAND and THORPE), 1912, T., 1569.
- 2-Methyl-3-ethylpyrrole-4:5-dicarboxylic acid**, 4-ethyl hydrogen ester (PILOTY and WILKE), 1912, A., i, 900.
- 1-Methyl-2-ethylpyrrolidine** and its derivatives (LÖFFLER and BOBILOFF), 1910, A., i, 633.
- Methylethylpyruvic acid** and its salts and phenylhydrazones (MEBUS), 1905, A., i, 508.  
and its ethyl ester and semicarbazone (BOUVEAULT and LOCQUIN), 1905, A., i, 636.  
and its derivatives, preparation of (LOCQUIN), 1906, A., i, 928.
- 2-Methyl-3-ethyl-4-quinazolone**, 6- and 7-amino-, acetyl derivatives (BOGERT, AMEND, and CHAMBERS), 1910, A., i, 595.
- 2-Methyl-1-ethylquinolylene-4(2')-quinaldine** salts (KAUFMANN and VONDERWAHL), 1912, A., i, 503.
- 4'-Methyl-5-ethyl-2-stilbazole** and its additive salts and -2-stilbazoline (LANGER), 1906, A., i, 38.
- $\alpha$ -Methyl- $\alpha$ -ethylsuccinic acid**, preparation of (HIGSON and THORPE), 1906, T., 1467; P., 242.  
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- 2-Methyl-5-ethyltetrahydropyridine** and its additive salts (KOENIGS and BERNHART), 1906, A., i, 36.
- 2-Methyl-5-ethyltetrahydropyridine**, *di*hydroxy-, and its additive salts (KOENIGS, BERNHART, and IBELE), 1907, A., i, 792.
- 2-Methyl-1-ethyltetrahydroquinoline** (SCHOLTZ and PAWLICKI), 1905, A., i, 473.
- Methylethylthetine**, menthyl ester, nitrate of (SMILES), 1907, P., 291.  
7-menthyl ester, salts of, molecular rotations of (SMILES), 1905, T., 453; P., 93.
- $\psi$ -Methylethylthiocarbamide** hydriodide (JOHNSON and HEYL), 1907, A., i, 728.
- Methylethyl-*p*-toluidine** and its pierate (WEDEKIND and OBERHEIDE), 1904, A., i, 732.
- 5-Methyl-1-ethyl-1:2:3-triazole** and its 4-carboxylic acid (WOLFF and KRÜCHE), 1912, A., i, 1030.
- 4-Methyl-2-ethyl-1:2:3-triazole-5-carboxylic acid** (OLIVERI-MANDALÀ), 1910, A., i, 441.
- $\alpha$ -4-Methyl-4-ethyltrimethylenedicarbonyl-imide** (GHIGLIENO), 1910, A., i, 506.
- $\alpha$ -4-Methyl-4-ethyltrimethylenedicarbonyl-imide**, 3:5-*di*cyano-,  $\alpha$ - and  $\beta$ -amides of, and their salts (GHIGLIENO), 1910, A., i, 505.



- Methylethyltrimethylene- $\alpha$ : $\alpha'$ -pyrrolidene- $\beta$ : $\beta'$ -dicarboxylic acid** and its sodium hydrogen salt (GHIGLIENO), 1910, A., i, 505.
- 4-Methyl-1-ethyluracil**, hydroxy-, and its acetyl derivative (HOEBEL), 1907, A., i, 558.
- 4-Methyl-5-ethyluracil** (WHEELER and MERRIAM), 1903, A., i, 525.
- 4-Methyl-1-and-3-ethyluracils**, 5-amino-, and 5-bromo- (BÜCKENDORFF), 1912, A., i, 54.
- $\alpha$ -Methyl- $\alpha$ -ethyl- $n$ -valeric acid** and its amide (HALLER and BAUER), 1909, A., i, 131.
- $\beta$ -Methyl- $\alpha$ -ethylvaleric acid**,  $\beta$ -hydroxy-, and its ethyl ester and metallic salts (MATSCHEVITSCH), 1910, A., i, 815.
- Methyleugenol**, compounds of, with mercury salts (BALBIANO, PAOLINI, and BERNARDINI), 1904, A., i, 73.
- $\alpha$ - and  $\beta$ -nitrosites** (RIMINI), 1905, A., i, 199.
- oxide (FOURNEAU and TIFFENEAT), 1906, A., i, 20.
- Methylisoeugenol** pierate (BRUNI and TORNANI), 1904, A., i, 875.
- Methylisoeugenol**, nitro- (WALLACH and BESCHKE), 1904, A., i, 754.
- Methylilic acid**, *di*- and *tri*-bromo- (BOEHM), 1904, A., i, 405.
- 6-Methylflavanone** and its oxime (AUWERS and MÜLLER), 1909, A., i, 46.
- 3-Methylflavone**, 1-hydroxy-, synthesis of, and its sodium salt and acetyl derivative (LUDWINOWSKY and TAMBOR), 1907, A., i, 75.
- 5-Methylflavone**, 7-hydroxy-, and its acetyl derivative, 7:3'-*di*hydroxy-, and 7:3':4'-*tri*hydroxy-, and its triacetyl derivative (TAMBOR), 1908, A., i, 350.
- 7-Methylflavone**, 5:2', 5:3', and 5:4'-*di*hydroxy-, and their diacetates and 5:3':4'-*tri*hydroxy- and its triacetate (TAMBOR), 1908, A., i, 358.
- 6-Methylflavonol** and its benzoate (AUWERS and MÜLLER), 1909, A., i, 46.
- 9-Methylfluorene**,  $\omega$ -imino- (WISLICIENUS and RUSS), 1910, A., i, 840.
- 9-Methylfluorene alcohol** (ULLMANN and V. WURSTENBERGER), 1906, A., i, 76.
- and its reactions (DAUFRESNE), 1908, A., i, 164.
- 9-Methylfluorone**, 3-hydroxy-, and its derivatives (KEHRMANN and JONES), 1910, A., i, 408.
- 9-Methylfluorone**, 5(or 7)-, 8-hydroxy-, and its carboxylic acid (SCHREIER and WENZEL), 1904, A., i, 517.
- 2:3:7-*tri*hydroxy-, and its acetyl derivative (LIEBERMANN, LINDENBAUM, and GLAWE), 1904, A., i, 443; (LIEBERMANN and LINDENBAUM), 1904, A., i, 764.
- Methylformazyl** (BAMBERGER and PEMSEL), 1903, A., i, 282, 284.
- Methylfructoside** and its methylation (PURDIE and IRVINE), 1903, T., 1027; P., 193; (PURDIE and PAUL), 1907, T., 290; P., 33.
- 2-Methylfuran**, formation of, from furfurylidenehydrazine (KJNER), 1912, A., i, 204.
- 2-Methylfuran-3-carboxylic acid**, ethyl ester (PLANCHER and ALBINI), 1904, A., i, 334; (BENARY), 1911, A., i, 320.
- 4-Methylfuran-2:3-dicarboxylic acid**, 5-bromo- (TREFILIEFF and MANGUBI), 1909, A., i, 821.
- Methylfurfuraldehyde**, and  $\omega$ -hydroxy-,  $\beta$ -naphthylamine derivatives of (COOPER and NUTTALL), 1912, T., 1080; P., 139.
- oximes of (FROMHERZ and MEIGEN), 1907, A., i, 232; (MEIGEN), 1907, A., i, 949.
- estimation of (FROMHERZ), 1907, A., ii, 141.
- Methylfurfuraldehyde**,  $\omega$ -bromo-, reactions of (COOPER and NUTTALL), 1911, T., 1193; P., 134.
- 4-hydroxy-, triacetyl derivative (BLANKSMA), 1909, A., i, 780.
- $\omega$ -hydroxy- (FENTON), 1910, A., i, 869.
- and its derivatives (ERDMANN), 1910, A., i, 762.
- constitution of (BLANKSMA), 1910, A., i, 130.
- constitution of, and chloro-, new method of preparation of (FENTON and ROBINSON), 1909, T., 1338.
- reactions of sugars due to (VILLE and DERRIEN), 1909, A., ii, 946.
- as the cause of some colour reactions of the hexoses (ALBERDA VAN EKENSTEIN and BLANKSMA), 1909, A., i, 288; 1910, A., i, 762.
- semicarbazone and *p*-bromophenylhydrazine of (BLANKSMA), 1911, A., i, 75.
- 2-Methylfurfurylidene diacetate** (BLANKSMA), 1909, A., i, 780.
- $\alpha$ -Methylgalactoside** (IRVINE and CAMERON), 1904, T., 1071; P., 174.

- $\beta$ -Methylgalactoside**, alkylation of (IRVINE and CAMERON), 1905, T., 902; P., 191.
- Methylgalactosides**, transformations of (JUNGUS), 1905, A., i, 573.
- Methylgalipidine** and its hydrochloride and platinichloride (BECKURTS and FRERICHs), 1906, A., i, 35.
- Methylgelatin** (SKRAUP and BÖTTCHER), 1911, A., i, 247.
- $\alpha$ -Methylgeranic acid** and its esters (TIFFENEAU), 1908, A., i, 500.
- $\alpha$ -Methylgeraniol** (FARBENFABRIK VORM. F. BAYER & Co.), 1904, A., i, 842; 1905, A., i, 147; (AUSTERWEIL and COCHIN), 1910, A., i, 687.
- Methyl $\gamma$ ogeraniol** (AUSTERWEIL and COCHIN), 1910, A., i, 687.
- Methylglucase** in beer yeast (BRESSON), 1910, A., i, 798.
- Methylglucosamine hydrochloride** (IRVINE, McNICOLL, and HYND), 1911, T., 260; P., 23.
- Methylglucosazone** (IRVINE and HYND), 1909, T., 1225; P., 176.
- Methylglucoside**, amino-, hydrobromide and hydrochloride (FISCHER and ZACH), 1911, A., i, 117.
- $\alpha$ -amino-** and its hydrobromide and hydrochloride (IRVINE and HYND), 1912, T., 1187.
- $\alpha$ -Methylglucoside** from bioses (FOERG), 1903, A., i, 713.
- methyl ethers** of (PURDIE and IRVINE), 1903, T., 1023; P., 192; (PURDIE and BRIDGETT), 1903, T., 1037; P., 193.
- $\beta$ -Methylglucoside**, preparation of (MAQUENNE), 1905, A., i, 415; (ARMSTRONG and COURTAULD), 1905, A., i, 746.
- alkylation** of (IRVINE and CAMERON), 1905, T., 900; P., 191.
- $\beta$ -Methyl-*d*-glucoside**, tetrabenzoyl derivative of (FISCHER and HELFERICH), 1911, A., i, 803.
- Methylglucosides**, transformations of (JUNGUS), 1905, A., i, 573.
- stereoisomeric**, and their penta-acetates and transformations (JUNGUS), 1904, A., i, 651.
- Methyl-*d*-glucosides**, mutual transformation of the two stereoisomeric (JUNGUS), 1903, A., i, 733.
- $\alpha$ - and  $\beta$ -**, diastatic decomposition of (BIERRY), 1909, A., ii, 747.
- Methyl-glucosides and -galactosides**,  $\alpha$ - and  $\beta$ -, tetra-acetates, hydrolysis of (ARMSTRONG and ARUP), 1904, T., 1048; P., 169.
- $\alpha$ -Methylglutaconanil** (FEIST and POMME), 1910, A., i, 9.
- $\alpha$ -Methylglutaconic acid**, *cis*- and *trans*-, semianilides of (THOLE and THORPE), 1911, T., 2231.
- $\beta$ -Methylglutaconic acid**, its silver salt, anhydride, and anilic acid, and  $\alpha$ -cyano-, ethyl ester (ROGERSON and THORPE), 1905, T., 1687; P., 239.
- formation** of (DARBISHIRE and THORPE), 1905, T., 1714; P., 239.
- derivatives** of (BLAND and THORPE), 1912, T., 865, 1565; P., 49.
- $\beta$ -Methylglutaconic acid**,  $\alpha$ -hydroxy-, ethyl ester (FEIST and BEYER), 1906, A., i, 335.
- $\alpha$ -Methylglutaconic acids**, *cis*- and *trans*-, and their barium and calcium salts and bromo- (FEIST and POMME), 1910, A., i, 9.
- $\beta$ -Methylglutaconic acids**, *cis*- and *trans*-, and their salts and esters (FEIST and BEYER), 1906, A., i, 335, 336.
- and their salts**, anilide, and *p*-toluidide (FICHTER and SCHWAB), 1906, A., i, 625.
- $\alpha$ -Methylglutaconic anhydride** and its semianilide (FEIST and POMME), 1910, A., i, 9.
- $\alpha$ -Methylglutaric acid** (*butanedicarboxylic acid*), synthesis of (FRANKE and KOHN), 1903, A., i, 66.
- $\alpha$ -Methylglutaric acid**,  $\alpha$ -bromo-, and  $\alpha\beta$ -tribromo-, and its methyl ester (PERKIN and SIMONSEN), 1909, T., 1174.
- $\beta$ -imino- $\alpha'$ -cyano-**, esters and salts (BARON, REMFERY, and THORPE), 1904, T., 1747.
- $\beta$ -Methylglutaric acid** (*ethylidenediacetic acid*) and its anhydride and  $\alpha$ -bromo- and  $\alpha$ -cyano-derivatives, ethyl esters (DARBISHIRE and THORPE), 1905, T., 1716; P., 239.
- and its anilide** and nitrile (BLAISE and GAULT), 1907, A., i, 281.
- $\beta$ -Methylglutaric acid**, bromo-, and  $\alpha\beta$ -dibromo-, ethyl esters (FEIST and BEYER), 1906, A., i, 335.
- $\alpha\beta$ -dibromo-** (FICHTER and SCHWAB), 1906, A., i, 625.
- trichloro-** (KÖTZ), 1907, A., i, 707.
- Methylglutazine** and its carboxylic acid, ethyl ester, and its dibenzoyl derivative, and oxime (BARON, REMFERY, and THORPE), 1904, T., 1749; P., 243.
- $\alpha$ -Methylglyceraldehyde**, preparation of (ZEISEL and DANIEL), 1910, A., i, 92.

*d*- **$\alpha$ -Methylglyceric acid**, conversion of *d*- $\alpha$ -methylisoserine into, and potassium salt of (KAY), 1909, T., 560; P., 90.

**$\beta$ -Methylglyceric acid**. See Butyric acid,  *$\alpha\beta$ -dihydroxy*-.

**Methylglycide** (HENRY), 1904, A., i, 474.

*d*- **$\alpha$ -Methylglycidic acid**, potassium salt (KAY), 1909, T., 563; P., 90.

**$\delta$ -Methylglycocyamidine** (KORNDÖRFER), 1905, A., i, 30.

**Methylglycol phthalate**, chloro-. See  *$\alpha\beta$ -Propylene phthalate*,  *$\gamma$ -chloro*-.

**Methylglyoxal**, preparation of (MEISENHEIMER), 1912, A., i, 831.

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**Methylglyoxalidone** and its benzoylation and its dibenzylidene derivative (FINGER), 1907, A., i, 876.

**1-Methylglyoxaline** and its salts (JOWETT), 1903, T., 444; P., 54.

**2-Methylglyoxaline**, iodo-, and its aurichloride (PAULY and GUNDERMANN), 1909, A., i, 72.

4:5-*di*-iodo-, and 1:4:5-*tri*-iodo- (PAULY), 1910, A., i, 639.

**4(5)-Methylglyoxaline** (KNOOP and WINDAUS), 1905, A., i, 509.

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**4(5)-Methylglyoxaline**, 4-amino-, and its salts and derivatives (WINDAUS and OPITZ), 1911, A., i, 752.

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4(or 5)-chloro-, 4(or 5)-cyano-, 4(or 5)-hydroxy-, and their salts (PYMAN), 1911, T., 673; P., 91.

**1-Methylglyoxaline-4-acetic acid** and its ethyl ester and their picrates (PYMAN), 1911, T., 2180.

**1-Methylglyoxaline-5-acetic acid** and its picrate (PYMAN), 1911, T., 2181.

**5(4)-Methylglyoxaline-4(5)-aldehyde**, anil of (GERNGROSS), 1912, A., i, 316.

**5(4)-Methylglyoxaline-4(5)-carboxylic acid** and its salts and ethyl ester (GERNGROSS), 1912, A., i, 316.

**5(4)-Methylglyoxaline-4(5)-chloroacetic acid**, salts and derivatives of (GERNGROSS), 1912, A., i, 315.

**2-Methylglyoxaline-1-diazobenzene-sulphonic acid** (BURIÁN), 1904, A., i, 354.

**5(4)-Methylglyoxaline-4(5)-glycollic acid** and its salts and derivatives (GERNGROSS), 1912, A., i, 315.

**5(4)-Methylglyoxaline-4(5)-glyoxylic acid** and its salts and derivatives (GERNGROSS), 1912, A., i, 316.

**4-Methyl-2-glyoxalone**,  $\omega$ -amino-, salts and derivatives of (FRANCHIMONT and DUBSKY), 1911, A., i, 238.

**5-Methyl-4-glyoxalone**, amino-, and its salts and methyl derivatives (TAFEL and MAYER), 1908, A., i, 743.

**Methylglyoxalosotetrazone**, formation of (DIECKMANN and PLATZ), 1905, A., i, 954.

**$\alpha$ -Methylglyoxal- $\alpha$ -oxime- $\beta$ -phenylhydrazone** (BÜLOW and HECKING), 1911, A., i, 244.

**Methylglyoxime**, cobalt derivative of (TSCHUGAEFF), 1907, A., i, 906.

**N-Methylgranatanine** and its derivatives and  $\psi$ -**Methylgranatanine**, 3-chloro- (WILLSTÄTTER and VERAGUTH), 1905, A., i, 543.

**N-Methylgranatanine**, salts of (WILLSTÄTTER and WASER), 1912, A., i, 18.

**Methylgranatoline** and  $\psi$ -**Methylgranatoline** and their additive salts (WILLSTÄTTER and VERAGUTH), 1905, A., i, 544.

**Methyl-green**, pharmacological action of (FÜHNER), 1908, A., ii, 877.

**Methyl group**, substitution of the acetyl group by the, by means of diazomethane (HERZIG and TICHATSCHEK), 1906, A., i, 431.

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- Methyl group** attached to nitrogen, estimation of (GOLDSCHMIEDT and HÖNIGSCHMID), 1903, A., ii, 578.
- Methylguanaiacolacetamide**, hydroxy- (EINHORN), 1905, A., i, 341.
- Methylguanidine** (V. GULEWITSCH), 1906, A., i, 637.  
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- Methylguanidine**, cyanohydroxy- (POHL), 1908, A., i, 576.
- $\alpha$ -Methylguanidine**, picrolonate of (WHEELER and JAMIESON), 1908, A., i, 253.  
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- $\alpha$ -Methyl- $\beta$ -guanidineacrylic acids**, *cis*- and *trans*- (JOHNSON and CLAPP), 1904, A., i, 819.
- $\alpha$ -Methylguaninobutyric acid**, lactam platinichloride (GANSSEER), 1909, A., i, 703.
- $\gamma$ -Methylguaninobutyric acid** and its salts with acids (GANSSEER), 1909, A., i, 703.
- $\alpha$ -Methylguaninopropionic acid**, lactam (2-*imino*-3:4-*dimethyltetrahydro*-5-*glyoxalone*) and its salts (GANSSEER), 1909, A., i, 702.
- $\beta$ -Methylguaninopropionic acid** and its salts with acids and salts of its lactam (GANSSEER), 1909, A., i, 703.
- Methylguloside** (BLANKSMA and ALBERDA VAN EKENSTEIN), 1908, A., i, 951.
- Methylhæmatic acid**, derivatives of (KÜSTER), 1908, A., i, 303.
- Methylhæmin** (KÜSTER and GREINER), 1912, A., i, 670.
- Methylapoharmine** and nitro-, and its carboxylic acid and their additive salts (FISCHER and BUCK), 1905, A., i, 229.  
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- Methylapoharmine**, bromo- (HASENFRATZ), 1912, A., i, 209.
- Methylapoharmine**, iodo-, and its hydriodide (HASENFRATZ), 1912, A., i, 383.
- Methylhemisparteilene** (MOUREU and VALEUR), 1908, A., i, 43.
- Methyl heptadecyl ketone** and its oxime (THOMS and VOGELSANG), 1908, A., i, 4.  
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- $\gamma$ -Methyl- $\Delta^{\beta\delta}$ -heptadiene**, and its dihydrobromide (ABELMANN), 1910, A., i, 455.
- $\delta$ -Methyl- $\Delta^{\beta\delta}$ -heptadiene** (BJELOUSS), 1910, A., i, 706.
- $\zeta$ -Methyl- $\Delta^{\beta\delta}$ -heptadiene** (REIF), 1908, A., i, 847.
- $\beta$ -Methylheptane** (BUELENS), 1909, A., i, 78.  
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- $\beta$ -Methylheptane**,  $\gamma$ -iodo- (MUSSET), 1907, A., i, 374.
- $\gamma$ -Methylheptane** (CLARKE), 1909, A., i, 349.
- $\gamma$ -Methylheptane**,  $\gamma$ -bromo- (KIJNER), 1912, A., i, 247.
- $\delta$ -Methylheptane**,  $\beta$ -heptanol, and  $\beta$ -heptanone (CLARKE), 1907, A., i, 169.
- $\beta$ -Methylheptane- $\beta\zeta$ -diol** (RUPE and SCHLOCHOFF), 1905, A., i, 414.
- $\gamma$ -Methylheptane- $\beta\delta$ -diol** and its diacetate (ABELMANN), 1909, A., i, 547.
- $\delta$ -Methylheptane- $\gamma\epsilon$ -diol** and its diacetate (FRANKE, KOHN, and ZWIAUER), 1907, A., i, 172.
- $\delta$ -Methylheptane- $\beta\zeta$ -dione** and its disemicarbazone (v. BAAYER and PICCARD), 1911, A., i, 901.
- $\delta$ -Methylheptanoic acid**,  $\gamma$ -hydroxy- (MORGENSTERN), 1912, A., i, 709.
- $\beta$ -Methylheptan- $\delta$ -ol** (CLARKE), 1909, A., i, 126.
- $\gamma$ -Methylheptan- $\gamma$ -ol** (CLARKE), 1909, A., i, 350.
- $\delta$ -Methylheptan- $\gamma$ -ol** and its salts (BJELOUSS), 1912, A., i, 229.
- $\gamma$ -Methylheptan- $\epsilon$ -ol**, and its acetate (GUERBET), 1910, A., i, 149.
- $\beta$ -Methylheptan- $\zeta$ -ol** (GUERBET), 1912, A., i, 527.
- $\beta$ -Methylheptan- $\epsilon$ -one** (isoamylacetone) and its semicarbazone (WALLACH and CHALLENGER), 1911, A., i, 472.
- $\gamma$ -Methylheptan- $\epsilon$ -one** and its semicarbazone (BODRoux and TABOURY), 1909, A., i, 699, 767; (GUERBET), 1910, A., i, 149.

- 1-Methylcycloheptan-2-one.** See Methyl-suberone.
- 4-Methylcycloheptatrienecarboxylic acid and amide** (BUCHNER and FELDMAN), 1904, A., i, 57.
- $\delta$ -Methyl- $\Delta^7$ -heptene** (BJELOUSS), 1912, A., i, 230.
- 1-Methyl- $\Delta^1$ -cycloheptene.** See  $\Delta^1$ -Methylsuberenene.
- $\delta$ -Methyl- $\Delta^7$ -heptene- $\beta\zeta$ -dione and its semicarbazone** (v. BAEYER and PICCARD), 1911, A., i, 901.
- Methylheptenol** (RUPE and SCHLOCHOFF), 1905, A., i, 414.
- sec.-Methylheptenol, ozonide of** (HARRIES and LANGHELD), 1906, A., i, 226.
- $\gamma$ -Methyl- $\Delta^8$ -hepten- $\delta$ -ol and its chloride and acetyl derivative** (ABELMANN), 1910, A., i, 455.
- $\zeta$ -Methyl- $\Delta^8$ -hepten- $\delta$ -ol and its acetate** (REIF), 1908, A., i, 847.
- $\delta$ -Methyl- $\Delta^7$ -hepten- $\epsilon$ -ol and its acetate and chloride** (BJELOUSS), 1910, A., i, 706.
- Methylheptenone, oxidation products of** (PRIESCHAEFF), 1911, A., i, 604.  
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- $\gamma$ -Methyl- $\Delta^7$ -hepten- $\epsilon$ -one** (LAW and PERKIN), 1907, P., 308.  
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- $\epsilon$ -Methyl- $\alpha$ -heptinoic acid.** See Octinoic acid.
- Methylheptylamine and its salts** (v. BRAUN), 1911, A., i, 612.
- Methylheptylcarbinol** (HOUBEN), 1903, A., i, 48; (THOMS and MANNICH), 1903, A., i, 673.  
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- d*-Methylheptylcarbinol** (HALLER and LASSIEUR), 1910, A., i, 808.  
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- Methylheptylcyanamide** (v. BRAUN), 1911, A., i, 611.
- Methyl heptyl ketone and its compound with sodium hydrogen sulphite** (VAN GYSEGEM), 1907, A., i, 375.
- Methyl heptyl ketone from German oil of rue** (HOUBEN), 1903, A., i, 48.  
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- Methyl heptyl ketone, bromo-** (JOWETT), 1905, P., 117.
- $\gamma$ -Methyl- $\Delta^{\alpha\gamma}$ -hexadiene** (BJELOUSS), 1912, A., i, 229.
- $\beta$ -Methyl- $\Delta^{\alpha\epsilon}$ -hexadiene.** See Allyl-isopropenylmethane.
- $\gamma$ -Methyl- $\Delta^{\beta\delta}$ -hexadiene** (ABELMANN), 1910, A., i, 455.
- $\epsilon$ -Methyl- $\Delta^{\beta\delta}$ -hexadiene** (REIF), 1908, A., i, 847.
- 1-Methyl- $\Delta^{1:3}$ -cyclohexadiene** (*dihydro-toluene*) (HARRIES), 1903, A., i, 520.
- 1-Methyl- $\Delta^{2:4}$ -cyclohexadiene, optically active, and its dibromide** (ZELINSKY and GORSKY), 1908, A., i, 619.
- 1-Methyl- $\Delta^{2:6}$ -cyclohexadiene** (ZELINSKY and GORSKY), 1908, A., i, 722.
- 1-Methyl- $\Delta^{2:4}$ -cyclohexadiene-2-carboxylic acid** (PERKIN), 1911, T., 758.
- 1-Methylcyclohexadien-6-ol, pentachloro-** (ZINCKE and PFAFFENDORF), 1912, A., i, 964.
- 1-Methyl- $\Delta^{2:4}$ -cyclohexadien-3-ol-4-carboxylic acid, ethyl ester** (KÜTZ), 1910, A., i, 258.
- 1-Methyl- $\Delta^{2:5}$ -cyclohexadien-3-ol-4-carboxylic acid, bromo-, ethyl ester** (KÜTZ), 1910, A., i, 258.
- 1-Methyl- $\Delta^1$ -cyclohexadien-4-one, tetra-, penta-, and hexa-chloro-** (ZINCKE, SCHNEIDER, and EMMERICH), 1903, A., i, 756.
- p*-Methylhexahydroacetophenone and its semicarbazone** (SEMMLER and RIMPEL), 1906, A., i, 682.
- Methylhexahydroacetophenones, *o*-, *m*-, and *p*-, and their semicarbazones, synthesis of** (DARZENS), 1907, A., i, 627.
- Methylhexahydrobenzaldehydes** (*methylcyclohexanecarbaldehydes*). See Hexahydro-tolualdehydes.
- o*-, *m*-, and *p*-Methylhexahydrobenzylamines** (GRIGNARD and BELLET), 1912, A., i, 623.
- 4-Methylhexahydrocarbazole and its nitroso-, benzoyl, and carbamyl derivatives** (BOESCHE, WITTE, and BOTHE), 1908, A., i, 367.
- 9-Methylhexahydrocarbazole and its salts** (SCHMIDT and SIGWART), 1912, A., i, 616.

- 3-Methylhexahydro-6-pyrimidone** 4-amino-2-thio-, 4:5-*d*-amino-2-thio-, and 4-imino-5-isonitroso-2-thio- (TRAUBE and WINTER), 1906, A., i, 390.
- 2-Methylcyclohexamethyleneimine** and its salts, nitrosoamine, and benzene-sulphonyl derivative (GABRIEL), 1909, A., i, 493.
- $\beta$ -Methylhexane**, nitro-derivative of (COSTĂCHESCU), 1911, A., i, 101.
- $\beta$ -Methylhexane**,  $\beta$ -*di*hydroxy- (LOSA-NITSCH), 1911, A., i, 804.
- 1-Methylcyclohexane** and its haloid derivatives (MARKOWNIKOFF), 1905, A., i, 760.  
five isomeric amino-derivatives of (GUTT), 1907, A., i, 508.  
1-, 2-, 3-, 4-, and  $\omega$ -chloro-derivatives (SABATIER and MAILHE), 1905, A., i, 334.
- Methylcyclohexane**, amino-, and its salts, and its transformation into suberyl alcohol (DEMJANOFF), 1904, A., i, 411.  
3-amino-, 3-nitro-, 1-nitro-, and derivatives (NAMETKIN), 1910, A., i, 830.  
4-bromo-, action of, on ethyl sodium-malonate (HOPE and PERKIN), 1909, T., 1360; P., 207.  
1:4-*di*bromo-, and 1:2:4-*tri*bromo- (PERKIN), 1911, T., 761.  
*hexabromo-* (BODROUX and TABOURY), 1912, A., i, 253.  
2-chloro- and  $\omega$ -nitro- (ZELINSKY and SCHWEDOFF), 1908, A., i, 864.  
 $\omega$ -iodo- (FREUNDLER), 1906, A., i, 283.
- 4-Methylcyclohexane-1-isobutyric acid**, 1-hydroxy-, ethyl ester (WALLACH), 1906, A., i, 682.
- 1-Methylcyclohexane-2-carboxylic acid** and  $\alpha$ -bromo-, ethyl esters (KAY and PERKIN), 1905, T., 1071.  
*cis*-, and its amide (ZELINSKY and SCHWEDOFF), 1908, A., i, 864.
- 1-Methylcyclohexane-2-carboxylic acid**, 2-amino-, and its derivatives, and the behaviour of its ethyl ester (SKITA and LEVI), 1908, A., i, 885.  
*trans*-4-bromo-, 5-bromo-, *trans*-1:4- and 3:4-*di*bromo-, and 4:5-*di*bromo- (PERKIN), 1911, T., 750.
- Methylcyclohexane-3-carboxylic acid** (MARKOWNIKOFF and SMIRNOFF), 1907, A., i, 418.  
and its bromination and ethyl ester, and  $\alpha$ -hydroxy-derivative (PERKIN and TATTERSALL), 1905, T., 1084.
- Methylcyclohexane-3-carboxylic acid**, 3-amino- (ZELINSKY and STADNIKOFF), 1906, A., i, 426.
- Methylcyclohexane-3-carboxylic acid** 1-bromo-, and 1-hydroxy-, lactone of (PERKIN and TATTERSALL), 1906, P., 268.  
*cis*-1-bromo-, preparation of (PERKIN and TATTERSALL), 1907, T., 495.  
4-bromo-, and 3:4-*di*bromo- (LUFF and PERKIN), 1910, T., 2152.  
*cis*- and *trans*-5-bromo- (MELDRUM and PERKIN), 1909, T., 1898.  
*cis*- and *trans*-6-bromo- (FISHER and PERKIN), 1908, T., 1883.  
*d*-3:4-*di*bromo- (LUFF and PERKIN), 1911, T., 523.  
5-oximino- (MELDRUM and PERKIN), 1909, T., 1900.
- 1-Methylcyclohexane-4-carboxylic acid**, *cis*- and *trans*- forms of, and their *p*-toluidides (CHOU and PERKIN), 1911, T., 536.
- 1-Methylcyclohexane-4-carboxylic acid**, 3-amino-, ethyl ester (KÖTZ and HESSE), 1906, A., i, 88.  
4-amino-, and its derivatives and the behaviour of its ethyl ester, and hydroxy- (SKITA and LEVI), 1908, A., i, 885.  
 $\alpha$ -bromo- and  $\alpha$ -hydroxy- (PERKIN), 1906, T., 835.  
2-*mono*- and 1:2-*di*-bromo- (PERKIN and PICKLES), 1905, T., 646.  
 $\delta$ -*mono*- and  $\gamma\delta$ -*di*-bromo-, and  $\delta$ -hydroxy-, and its lactone (PERKIN), 1904, T., 657; P., 86.
- d*-Methylcyclohexane-4-carboxylic acid**, 3-bromo-, and 3:4-*di*bromo- (CHOU and PERKIN), 1911, T., 534.
- 1-Methylcyclohexane-2-carboxylic acids**, *cis*- and *trans*-(A)4-bromo-, and 1:4-*di*bromo- (BAUDISCH, HIBBERT, and PERKIN), 1909, T., 1878.  
*cis*-6-bromo- (BAUDISCH and PERKIN), 1909, T., 1889.  
*o*-, *m*-, and *p*-Methylcyclohexanecarboxylonitriles (GRIGNARD and BELLET), 1912, A., i, 623.
- 1-Methylcyclohexane-3:3-diacetic acid**,  $\alpha\alpha'$ -*dicyano*-, derivatives of (GUARESCHI), 1911, A., i, 793.
- 4-Methylcyclohexane-1:3-dicarboxylic acid**, 4-imino-6-hydroxy-, ethyl ester (RABE and RAHM), 1904, A., i, 748.
- $\gamma$ -Methylhexane- $\alpha'$ -diol** (BOUVEAULT and BLANC), 1903, A., i, 731.
- $\gamma$ -Methylhexane- $\beta\delta$ -diol** and its diacetate (FRANKE, KOHN, and ZURAUER), 1907, A., i, 171; (ABELMANN), 1909, A., i, 547.
- $\beta$ -Methylhexane- $\beta\zeta$ -diol** (FRANKE and KOHN), 1907, A., i, 816.



- 1-Methylcyclohexane-3,4-diol and its diacetate (STADNIKOFF), 1904, A., i, 665.
- $\alpha\beta$ -1-Methylcyclohexane-3:3-succinimide,  $\alpha\beta$ -dicyano- (GUARESCHI), 1911, A., i, 793.
- 1-Methylcyclohexane-3-sulphonic acid and its potassium salt and chloride (BORSCHKE and LANGE), 1907, A., i, 599.
- 2- and 4-Methylcyclohexanethiol (SABATIER and MAILHE), 1910, A., i, 457.
- $\beta$ -Methylhexane- $\alpha\epsilon$ -tricarboxylic acid and its ethyl ester (KÖTZ and KAYSER), 1907, A., i, 60.
- $\beta$ -Methylhexane- $\beta\epsilon\epsilon$ -tricarboxylic acid and its ethyl ester (BLANC), 1907, A., i, 1058.
- $\gamma$ -Methylhexane- $\beta\gamma\delta$ -triol and its triacetate (ABELMANN), 1910, A., i, 455.
- $\gamma$ -Methylhexan- $\beta$ -ol and its salts (BIELOUSS), 1912, A., i, 229.
- 1-Methylcyclohexan-1-ol and 2-one (WALLACH), 1906, A., i, 176.
- 1-Methylcyclohexan-2-ol and its phenylurethane (WALLACH and FRANKE), 1904, A., i, 425.
- salts of (MURAT), 1909, A., i, 146.
- Methylcyclohexan-3-ol and its cyanohydrin and 3-carboxylic acid, *cis*- and *trans*-modifications of, and their anilides (MARKOWNIKOFF and SMIRNOFF), 1907, A., i, 418.
- benzoate of (HALLER and MARCH), 1905, A., i, 771.
- Methylcyclohexanols, action of bromine and aluminium bromide on (BODROUX and TABOURY), 1912, A., i, 253.
- condensation of formaldehyde with (MURAT and CATHALA), 1912, A., i, 847.
- 2-Methylcyclohexan-1-ol-1-acetic acid and its ethyl ester (WALLACH and BESCHKE), 1906, A., i, 565.
- 4-Methylcyclohexan-1-ol-1-acetic acid (WALLACH and EVANS), 1906, A., i, 566.
- 1-Methylcyclohexan-4-ol-4-acetic acids,  $\alpha$ - and  $\beta$ - (MARCKWALD and METH), 1906, A., i, 360.
- 1-Methylcyclohexan-3- and -4-ol-*n*-butyric acids, ethyl esters (WALLACH and RENTSCHLER), 1908, A., i, 405.
- 1-Methylcyclohexan-4-ol-*isobutyric* acid, ethyl ester (WALLACH and CHURCHILL), 1908, A., i, 406.
- cis*-1-Methylcyclohexan-1-ol-3-carboxylic acid, lactone of, and its conversion into *cis*-1-bromo-1-methylcyclohexane-3-carboxylic acid (PERKIN and TATTERSALL), 1907, T., 495.
- 1-Methylcyclohexan-2-ol-3-carboxylic acid (GARDNER, PERKIN, and WATSON), 1910, T., 1766.
- d*-1-Methylcyclohexan-3-ol-4-carboxylic acid (CHOU and PERKIN), 1911, T., 532.
- 1-Methylcyclohexan-4-ol-3-carboxylic acid and its ethyl ester (GARDNER, PERKIN, and WATSON), 1910, T., 1770; P., 137.
- cis*-1-Methylcyclohexan-6-ol-3-carboxylic acid and its lactone (FISHER and PERKIN), 1908, T., 1883.
- trans*-1-Methylcyclohexan-6-ol-3-carboxylic acid, synthesis of (FISHER and PERKIN), 1908, T., 1882.
- 1-Methylcyclohexan-2-ol-4-carboxylic acids, *cis*- and *trans*-, and their conversion into 1-methyl- $\Delta^1$ -cyclohexene-4-carboxylic acid (MELDRUM and PERKIN), 1908, T., 1416; P., 187.
- 1-Methylcyclohexan-2-ol-6-carboxylic acids, *cis*- and *trans*-, and the lactone of the *cis*-acid (BAUDISCH and PERKIN), 1909, T., 1887; P., 249.
- dl*- and *d*-1-Methylcyclohexan-3-ol-4-carboxylic acids (GARDNER, PERKIN, and WATSON), 1910, T., 1767.
- 1-Methylcyclohexan-3-ol-5-carboxylic acids, *cis*- and *trans*-, and the lactone of the *cis*-acid (MELDRUM and PERKIN), 1909, T., 1897; P., 249.
- 1-Methylcyclohexan-4-ol-2-carboxylic acids, *cis*- and *trans*-A and B (BAUDISCH, HIBBERT, and PERKIN), 1909, T., 1877; P., 249.
- 1-Methylcyclohexan-3-ol-3- $\alpha$ -propionic acid and its silver salt (HAWORTH, PERKIN, and WALLACH), 1911, T., 126.
- ethyl ester (WALLACH and EVANS), 1908, A., i, 404.
- 1-Methylcyclohexan-4-ol-4-propionic acid (WALLACH and EVANS), 1908, A., i, 404.
- 1-Methylcyclohexan-1-ol-1- $\alpha$ -propionic acids (WALLACH and RENTSCHLER), 1909, A., i, 384.
- $\beta$ -Methylhexanone, oxidation of (MARKOWNIKOFF), 1903, A., i, 843.
- $\gamma$ -Methylhexan- $\epsilon$ -one (KÖHLER), 1907, A., i, 1051.
- $\delta$ -Methylhexan- $\beta$ -one (CLARKE), 1908, A., i, 594.
- 1-Methylcyclohexan-2-one (KAY and PERKIN), 1905, T., 1070.

**1-Methylcyclohexan-2-one** and its semicarbazone (BOUVEAULT and CHEREAU), 1906, A., i, 513.

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semicarbazones of (NAMETKIN), 1910, A., i, 830.

**1-Methylcyclohexan-2-one**, 3-bromo-, 3-chloro-, and 3-hydroxy- (KÖTZ and STEINHORST), 1911, A., i, 211.

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**1-Methylcyclohexan-3-one** and its oxime and semicarbazone (PERKIN and TATTERSALL), 1905, T., 1088.

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action of alkyl iodides on the sodium derivative of (HALLER), 1905, A., i, 214.

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azine of, conversion of, into 1-methylcyclohexyl-3-hydrazine (KIJNER), 1908, A., i, 106.

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**1-Methylcyclohexan-3-one**, 4-bromo-, 4-chloro-, and 4-hydroxy- (KÖTZ and STEINHORST), 1911, A., i, 211.

**1-Methylcyclohexan-4-one** and its semicarbazone (PERKIN), 1906, T., 836.

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**1-Methylcyclohexan-4-one**, 3-bromo-, 3-chloro-, and 3-hydroxy- (KÖTZ and STEINHORST), 1911, A., i, 211.

3:5-dioximino-, and its dibenzoate, phenylhydrazine, semicarbazone, and trioxime (BORSCHKE), 1910, A., i, 179.

**Methylcyclohexanones**, and the corresponding methylcyclohexanols (SABATIER and MAILHE), 1905, A., i, 275.

**Methylcyclohexanones**, action of light on (CIAMICIAN and SILBER), 1908, A., i, 277.

2-, 3-, and 4-, properties of, and their oximes (WALLACH), 1906, A., i, 514.

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**1-Methylcyclohexan-3-one-4-acetic acid**, ethyl ester, and its semicarbazone (KÖTZ and KAYSER), 1907, A., i, 60.

**1-Methylcyclohexan-3-one-4-acetic-4-carboxylic acid**, ethyl ester, and its semicarbazone (KÖTZ and BIEBER), 1907, A., i, 60.

**1-Methylcyclohexan-2-one-1-carboxylic acid**, ethyl ester, and its semicarbazone, synthesis of (KÖTZ and MICHELS), 1907, A., i, 58.

**1-Methylcyclohexan-2-one-3-carboxylic acid** (GARDNER, PERKIN, and WATSON), 1910, T., 1765; P., 137.

**1-Methylcyclohexan-2-one-4-carboxylic acid** and its ethyl ester, oxime, and semicarbazone, preparation of (MELDRUM and PERKIN), 1908, T., 1425.

**1-Methylcyclohexan-2-one-5-carboxylic acid** and its oxime and semicarbazone, synthesis of (FISHER and PERKIN), 1908, T., 1880.

**1-Methylcyclohexan-2-one-6-carboxylic acid** and its semicarbazone (BAUDISCH and PERKIN), 1909, T., 1886.

**1-Methylcyclohexan-3-one-4-carboxylic acid**, ethyl ester, and its compound with phenylhydrazine (KÖTZ and HESSE), 1906, A., i, 88. anilinoanilide from, and quinazoline derivative (KÖTZ and MERKEL), 1909, A., i, 157.

**1-Methylcyclohexan-3-one-4-carboxylic acid**, 4-chloro- and 1-bromo-, ethyl esters (KÖTZ), 1910, A., i, 259.

**1-Methylcyclohexan-3-one-5-carboxylic acid** and its ethyl ester (MELDRUM and PERKIN), 1909, T., 1899.

**1-Methylcyclohexan-3-one-6-carboxylic acid**, ethyl ester (SKITA and PAAL), 1911, A., i, 449.

**1-Methylcyclohexan-4-one-3-carboxylic acid** (GARDNER, PERKIN, and WATSON), 1910, T., 1769; P., 137.

1-Methylcyclohexan-2- and -4-one-3-carboxylic acids, ethyl esters, and their semicarbazones (KÖTZ and MICHELS), 1906, A., i, 666.

*dl*- and *d*-1-Methylcyclohexan-3-one-4-carboxylic acids, and their ethyl esters (GARDNER, PERKIN, and WATSON), 1910, T., 1767; P., 137.

1-Methylcyclohexan-2-one-1:3-dicarboxylic acid, ethyl ester, and its semicarbazone, synthesis of (KÖTZ and MICHELS), 1907, A., i, 58.

1-Methylcyclohexan-3-one-4-dicarboxylic acid, ethyl ester (KÖTZ and HARTZER), 1907, A., i, 59.

1-Methylcyclohexan-3-one-*m*-nitrophenylhydrazone (BORSCHKE, WITTE, and BOTHE), 1908, A., i, 367.

$\beta$ -Methylcyclohexan-6-one- $\gamma$ -ol and its semicarbazone (GAUTHIER), 1911, A., i, 415.

1-Methylcyclohexan-3-one-1-ol-4:6-dicarboxylic acid, ethyl ester, and its dienolic isomeride (RABE), 1904, A., i, 748.

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1-Methylcyclohexan-3-one-4-oxalic acid and its ethyl ester and their semicarbazones (KÖTZ and HESSE), 1906, A., i, 88.

3-Methylcyclohexanonephenylcarbamic acid hydrazone (BORSCHKE and MERKWITZ), 1904, A., i, 946.

$\beta$ -4-Methylcyclohexan-2-onyl- $\beta$ -phenylethyl styryl ketone (CRUIKSHANKS and SCHWYZER), 1912, A., i, 785.

1-Methyl-3-cyclohexanoxide, sodium derivative, action of aromatic aldehydes on (HALLER and MARCH), 1905, A., i, 771.

$\beta$ -Methylcyclohexan-2-onyl hydrogen phthalate (TSCHECHEWITSCH), 1907, A., i, 420.

Methylcyclohexan-2-onyl ketone and its *p*-nitrophenylhydrazone (V. BRAUN), 1907, A., i, 893.

$\gamma$ -Methyl- $\Delta^2$ -hexene (BJELOUSS), 1912, A., i, 229.

1-Methyl- $\Delta^1$ -cyclohexene and its dibromide (ZELINSKY and GORSKY), 1908, A., i, 722.

and its chloronitrosite (FAWORSKY and BORGSMANN), 1908, A., i, 15.

1-Methyl- $\Delta^1$ -cyclohexene, 4-bromo- (PERKIN), 1911, T., 760.

1-Methyl- $\Delta^3$ -cyclohexene and its chlorohydrin, oxide, and chloro-ketone (MARKOWNIKOFF and STADNIKOFF), 1903, A., i, 803.

Methylcyclohexenes (*heptanaphthylenes*) (MARKOWNIKOFF), 1903, A., i, 19, 157; (MARKOWNIKOFF and STADNIKOFF), 1903, A., i, 803.

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1-Methyl- $\Delta^1$ - and - $\Delta^2$ -cyclohexenes, nitrosates, nitrosites, and nitrosochlorides, and dihalogen derivatives (MURAT), 1909, A., i, 148.

1-Methyl- $\Delta^1$ -cyclohexene-2-acetic acid and its ethyl ester (WALLACH and BESCHKE), 1906, A., i, 565.

1-Methylcyclohexene-3-acetic acid, constitution of, and its amide, dibromide, and nitrile (WALLACH and BESCHKE), 1906, A., i, 565.

1-Methyl- $\Delta^2$ -cyclohexene-3-acetic acid and its nitrile, and  $\alpha$ -cyano- and its ethyl ester (HARDING and HAWORTH), 1910, T., 494.

1-Methylcyclohexene-4-acetic acid and its amide and nitrile (WALLACH and EVANS), 1907, A., i, 618.

and its silver salt (WALLACH and EVANS), 1906, A., i, 566.

1-Methyl- $\Delta^3$ -cyclohexene-4-acetic acid and its ethyl ester and nitrile (HARDING, HAWORTH, and PERKIN), 1908, T., 1967; P., 230.

1-Methyl- $\Delta^3$ -cyclohexene-4-acetic acid,  $\alpha$ -cyano-, and its ethylester (HARDING, HAWORTH, and PERKIN), 1908, T., 1963.

2-, 3-, and 4-Methylcyclohexeneacetyl chlorides (DARZENS and ROST), 1911, A., i, 988.

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1-Methylcyclohexene-*n*-butyric acids and their ethyl esters and silver salts (WALLACH and RENTSCHLER), 1908, A., i, 405.

1-Methylcyclohexene-2-, -3-, and -4-isobutyric acids and their derivatives (WALLACH and CHURCHILL), 1908, A., i, 406.

Methylcyclohexenecarboxylic acid (GARDNER, PERKIN, and WATSON), 1910, P., 137.

1-Methyl- $\Delta^3$ -cyclohexene-2-carboxylic acid and its oxidation and ethyl ester (KAY and PERKIN), 1905, T., 1072.

1-Methyl- $\Delta^4$ -cyclohexene-2-carboxylic acid and its ethyl ester (PERKIN), 1911, T., 754.

1-Methyl- $\Delta^5$ -cyclohexene-2-carboxylic acid, and its ethyl ester (PERKIN), 1911, T., 734; P., 95.



- 1-Methyl- $\Delta^6$ -cyclohexene-2-carboxylic acid and its ethyl ester and 1:6-di-bromo- (PERKIN), 1911, T., 738; P., 95.
- 1-Methyl- $\Delta^1$ -cyclohexene-3-carboxylic acid and its ethyl ester (PERKIN and TATTERSALL), 1906, P., 269; 1907, T., 496.
- d*-Methyl- $\Delta^1$ -cyclohexene-3-carboxylic acid and its ethyl ester (PERKIN), 1910, P., 97.
- dl*-Methyl- $\Delta^3$ -cyclohexene-3-carboxylic acid, resolution of, its optically active components and their ethyl esters (LUFF and PERKIN), 1911, T., 521; P., 57.
- dl*-1-Methyl- $\Delta^4$ -cyclohexene-3-carboxylic acid, ethyl ester (PERKIN), 1910, T., 2146.
- 1-Methyl- $\Delta^6$ -cyclohexene-3-carboxylic acid and its calcium salt and ethyl ester, synthesis of (FISHER and PERKIN), 1908, T., 1885; P., 228.
- 1-Methyl- $\Delta^1$ -cyclohexene-4-carboxylic acid and its ethyl ester (PERKIN), 1904, T., 657; P., 86.
- formation of, from *cis*- and *trans*-1-methylcyclohexan-2-ol-4-carboxylic acids (MELDRUM and PERKIN), 1908, T., 1416; P., 187.
- dl*-1-Methyl- $\Delta^1$ -cyclohexene-4-carboxylic acid, resolution of (FISHER and PERKIN), 1908, T., 1871; P., 228.
- 1-Methyl- $\Delta^3$ -cyclohexene-4-carboxylic acid and its optically active modifications (PERKIN), 1906, T., 835; (KAY and PERKIN), 1906, T., 840; P., 72.
- and its ethyl ester (PERKIN and PICKLES), 1905, T., 645; P., 130.
- ethyl ester, density, magnetic rotation, and refractive power of (PERKIN), 1906, T., 852.
- d*-1-Methyl- $\Delta^3$ -cyclohexene-4-carboxylic acid and its ethyl ester (CHOU and PERKIN), 1911, T., 533; P., 57.
- cis*- and *trans*-1-Methyl- $\Delta^3$ -cyclohexene-2-carboxylic acids and their ethyl esters and 2:5-di-bromo- (PERKIN), 1911, T., 750.
- 1-Methyl- $\Delta^1$ - and  $\Delta^6$ -cyclohexene-3-carboxylic acids and their ethyl esters, and oxidation, and reaction of the esters with magnesium methyl iodide (PERKIN and TATTERSALL), 1905, T., 1085.
- dl*-, *d*-, and *l*-1-Methyl- $\Delta^5$ -cyclohexene-3-carboxylic acids and their ethyl esters and calcium salt of the former (PERKIN), 1910, T., 2138, 2140, 2142.
- 1-Methyl- $\Delta^1$ -cyclohexene-4:6-dione (1:3-diketo-4-methyltetrahydronaphthalene), pentachloro- (ZINCKE, SCHNEIDER, and EMMERICH), 1903, A., i, 759.
- $\alpha$ -1-Methyl- $\Delta^2$ -cyclohexene-3-propionic acid and its nitrile, and  $\alpha$ -cyano- and its methyl ester (HARDING and HAWORTH), 1910, T., 496.
- $\alpha$ -1-Methyl- $\Delta^2$ -cyclohexene-4-propionic acid and its methyl ester and nitrile, and  $\alpha$ -cyano-, and its methyl ester (HARDING, HAWORTH, and PERKIN), 1908, T., 1973.
- 1-Methylcyclohexenepropionic acids and their ethyl esters and silver salts (WALLACH and EVANS), 1908, A., i, 404.
- $\delta$ -Methylhexenoic acid (KNOEVENAGEL), 1905, A., i, 169.
- $\delta$ -Methyl- $\Delta^{\alpha}$ -hexenoic acid,  $\alpha$ -cyano- (KNOEVENAGEL), 1905, A., i, 169.
- tert*.-Methylhexenol, ozonide of (HARRIES and LANGHELD), 1906, A., i, 226.
- $\gamma$ -Methyl- $\Delta^{\beta}$ -hexen- $\delta$ -ol, and its acetate and chloride (AEELMANN), 1910, A., i, 455.
- $\delta$ -Methyl- $\Delta^{\beta}$ -hexen- $\delta$ -ol (GRY), 1908, A., i, 307.
- $\zeta$ -Methyl- $\Delta^{\beta}$ -hexen- $\delta$ -ol and its acetate (REIF), 1908, A., i, 847.
- $\delta$ -Methyl- $\Delta^{\delta}$ -hexen- $\gamma$ -ol and its acetate (ABELMANN), 1908, A., i, 2.
- 1-Methyl- $\Delta^{10\text{ or }2}$ -cyclohexen-2-ol, acetate of (MANNICH and HÂNCU), 1908, A., i, 276.
- 1-Methyl- $\Delta^1$ -cyclohexen-2-ol, 3:3:4:5:5:6-hexachloro- (ZINCKE and PFAFFENDORF), 1912, A., i, 964.
- 1-Methyl- $\Delta^3$ -cyclohexen-4-ol, acetate of (MANNICH and HÂNCU), 1908, A., i, 276.
- 1-Methyl- $\Delta^6$ -cyclohexen-4-ol-2-carboxylic acid and its lactone (BAUDISCH, HIBBERT, and PERKIN), 1909, T., 1881; P., 249.
- 1-Methyl- $\Delta^1$ -cyclohexen-2-ol-6-one (BLAISE and MAIRE), 1908, A., i, 392.
- $\beta$ -Methyl- $\Delta^{\beta}$ -hexen- $\delta$ -one (BLAISE and MAIRE), 1909, A., i, 85.
- 1-Methyl- $\Delta^3$ -cyclohexen-2-one and its semicarbazone (KÖTZ and STEINHORST), 1911, A., i, 211.
- 1-Methyl- $\Delta^1$ -cyclohexen-3-one, isomerism of (RABE and EHRENSTEIN), 1907, A., i, 626; (RABE and POLLOCK), 1912, A., i, 987.
- addition of ethyl acetoacetate to (RABE), 1904, A., i, 509.

- 1-Methyl- $\Delta^1$ -cyclohexen-3-one, semicarbazone of (SIMONSEN and STOREY), 1909, T., 2112.
- 1-Methyl- $\Delta^3$ -cyclohexen-3-one and its semicarbazone (KÖTZ and STEINHORST), 1911, A., i, 211.
- 1-Methyl- $\Delta^2$ -cyclohexen-4-one and its semicarbazone (KÖTZ and STEINHORST), 1911, A., i, 211.
- 1-Methyl- $\Delta^3$ -cyclohexen-5-one and its semicarbazone (KÖTZ and GRETHE), 1910, A., i, 25.
- 1-Methylcyclohexen-3-one-6-carboxylic acid, ethyl ester (SKITA and PAAL), 1911, A., i, 449.
- 1-Methyl- $\Delta^1$ -cyclohexen-3-one-6-carboxylic acid, ethyl ester (*Hagemann's ester*), and its semicarbazone (RABE and RAHM), 1905, A., i, 348; (MERLING), 1905, A., i, 350. tautomerism of (RABE and SPENCE), 1906, A., i, 89.
- 2-Methyl- $\Delta^2$ -cyclohexen-4-one-1-carboxylic acid, ethyl ester, and its derivatives (DIECKMANN), 1912, A., i, 857.
- 1-Methyl- $\Delta^3$ -cyclohexen-5-one-4-carboxylic acid and its ethyl ester (KÖTZ and GRETHE), 1910, A., i, 25; (KÖTZ), 1910, A., i, 258.
- 1-Methyl- $\Delta^1$ -cyclohexen-3-one-4:6-dicarboxylic acid, ethyl ester, desmotropy of, and its sodium salt, *p*-nitrophenylhydrazone, and semicarbazone (RABE, SPENCE, and EHRENSTEIN), 1908, A., i, 530.
- $\gamma$ -Methyl- $\Delta^6$ -hexenoylacetic acid, ethyl ester (MOUREU and DELANGE), 1903, A., i, 400.
- Methylcyclohexenylglycidic acid, ethyl ester (DARZENS and ROST), 1910, A., i, 856.
- 1-Methyl- $\Delta^1$ -cyclohexenylideneacetic acid, ethyl ester (AUWERS, and EISENLOHR), 1911, A., ii, 783.
- 1-Methylcyclohexenylidene-3-cyanoacetic acid, ethyl ester (KNOEVENAGEL and MOTTEK), 1905, A., i, 62.
- $\alpha$ -Methyl- $\Delta\gamma$ -hexinen- $\beta$ -ol (DUPONT), 1909, A., i, 546.
- $\beta$ -Methyl-*n*-hexoamide (FARBENFABRIKEN VORM. F. BAYER & Co.), 1911, A., i, 259.
- $\alpha$ -Methylhexoic acid and its esters, amide, and chloride (RASETTI), 1905, A., i, 561.
- $\alpha$ -Methylhexoic acid, bromo-, and its ethyl ester (BLAISE and LUTTINGER), 1905, A., i, 628.
- $\delta$ -cyano-, and its silver salt, preparation of (BEST and THORPE), 1909, T., 706.
- $\alpha$ -Methylhexoic acid,  $\beta$ -imino- $\alpha$ -cyano-, ethyl ester (BARON, REMFRY, and THORPE), 1904, T., 1755.
- $\beta$ -Methylhexoic acid,  $\alpha$ -bromo-, and  $\alpha$ -iodo-, guaiacol esters of (FARBENFABRIKEN VORM. F. BAYER & Co.), 1911, A., i, 630.
- $\alpha$ -cyano-, and its ethyl ester (FARBENFABRIKEN VORM. F. BAYER & Co.), 1911, A., i, 259.
- $\gamma$ -Methylhexoic acid (CIAMICIAN and SILBER), 1908, A., i, 277.
- $\alpha$ -Methyl-*n*- and -*iso*-hexoic acids,  $\alpha$ -amino-, copper salts and their nitriles, hydrochlorides of (v. GULEWITSCH and WASMUS), 1906, A., i, 410.
- $\alpha$ -Methylhexonitrile,  $\alpha$ -hydroxy- (ULTÉE), 1909, A., i, 294.
- Methyl-*n*- and -*iso*-hexoylacetic acids, ethyl esters (LOCQUIN), 1904, A., i, 552.
- $\beta$ -Methylhexyl iodide (ZELINSKY and PRSCHEVALSKY), 1908, A., i, 845.
- Methylcyclohexyl dibromide (*heptanaphthylene dibromide*) (STADNIKOFF), 1904, A., i, 666.
- 3-hydrosulphide (BORSCHKE and LANGE), 1907, A., i, 599.
- 1-Methylcyclohexyl-4-acetic acid and its halogen derivatives, amide, and nitrile (WALLACH and EVANS), 1907, A., i, 619.
- and its silver salt, and  $\alpha$ -bromo-, and its ethyl ester, and  $\beta$ -bromo-, and  $\alpha$ -hydroxy, and its silver salt (PERKIN and POPE), 1908, T., 1081.
- 1-Methylcyclohexyl-4-acetic acid, 4-bromo-, preparation of (PERKIN and POPE), 1911, T., 1513.
- 3:4-dibromo-, and 3:4-dihydroxy-, and its lactone (HARDING, HAWORTH, and PERKIN), 1908, T., 1969.
- 4-bromo-3-hydroxy-, lactone of (HARDING, HAWORTH, and PERKIN), 1908, T., 1970.
- dl*-, *d*-, and *l*-Methylcyclohexyl-4-acetic acids,  $\alpha$ - and  $\beta$ -4-dibromo- (PERKIN and POPE), 1911, T., 1518.
- 4-Methylcyclohexylacetyl chloride (DARZENS and ROST), 1911, A., i, 988.
- $\beta$ -Methyl- $\beta$ -hexylacrylic acid (GARDNER and HAWORTH), 1909, T., 1964.
- $\beta$ -Methyl- $\beta$ -hexylacrylonitrile (GARDNER and HAWORTH), 1909, T., 1964.
- $\beta$ -Methylcyclohexyl allyl ether (HALLER and MARCH), 1904, A., i, 751.
- $\gamma$ -Methylhexylamine,  $\epsilon$ -hydroxy-, and its oxalate (WOHL and MAAG), 1911, A., i, 25.

- 4'-Methylcyclohexylamino-4-methylcyclohexane** and its phenylcarbamide (SABATIER and MAILHE), 1912, A., i, 103.
- 1-Methylcyclohexylamylamine** (WALLACH), 1906, A., i, 161.
- 3-Methyl-1-hexylbenzoxazole**, 5-hydroxy- (HENRICH and OFFERMANN), 1904, A., i, 934.
- Methylhexylcarbinol**, resolution of (PICKARD and KENYON), 1907, T., 2058; P., 286.
- d*-**Methyl-*n*-hexylcarbinol**, salts of (HILLDITCH), 1911, T., 222; P., 6.  
strychnine salt of the hydrogen phthalate of (PICKARD and KENYON), 1911, T., 61.
- Methylisohexylcarbinol** and its acetate (BUELENS), 1909, A., i, 78.
- 1-Methylcyclohexyl-4-carbinol** and its bromide (PERKIN and POPE), 1908, T., 1078.
- 1-1-Methylcyclohexyl-4-chlorobromoacetic acid**, 4-chloro- (PERKIN and POPE), 1911, T., 1527.
- 2:4- and 4:2-Methylhexyldihydro-6-pyridones**, 5-cyano- (ISSOGLIO), 1905, A., i, 610.
- 1-Methylcyclohexyl-3-hydrazine**, formation of (KIJNER), 1908, A., i, 106.  
derivatives of (MERKIN), 1911, A., i, 64.
- Methylcyclohexylhydrazonemethylcyclohexanone** (KIJNER), 1908, A., i, 107.
- 1-Methylcyclohexylidene-4-acetic acid** and its ethyl ester (PERKIN and POPE), 1906, P., 107.  
experiments on the synthesis of, and its ethyl ester (PERKIN and POPE), 1908, T., 1075; P., 145; (HARDING, HAWORTH, and PERKIN), 1908, T., 1943; P., 230.  
molecular configuration of (EVEREST), 1911, P., 285.  
optical isomerides of (PERKIN and POPE), 1906, P., 108; (MARCKWALD and METH), 1906, A., i, 360, 584, 663.  
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amide of (WALLACH), 1909, A., i, 384.
- d*-**1-Methylcyclohexylidene-4-acetic acid**, rotatory power of (PERKIN and POPE), 1911, T., 1525.
- 2- and 3-Methylcyclohexylideneacetic acids** and their ethyl and methyl esters (AUWERS and ELLINGER), 1912, A., i, 188.
- d*- and *l*-**1-Methylcyclohexylidene-4-bromoacetic acid** (PERKIN and POPE), 1911, T., 1524.
- Methyl hexyl ketone** and its oxime and semicarbazone (MOUREU and DELANGE), 1903, A., i, 400.  
semicarbazone of (BOUVEAULT and LOCQUIN), 1905, A., i, 18.
- Methyl isohexyl ketone** and its methyl ether (BUELENS), 1909, A., i, 78.
- Methylhexylketoxime** (FULDA), 1903, A., i, 199.
- 1-Methylcyclohexyl-4-malonic acid** and its ethyl ester and potassium salt, and  $\alpha$ -bromo-, and its ethyl ester (HOPE and PERKIN), 1909, T., 1367; P., 207.
- Methylcyclohexylmethylcyclohexylidenehydrazine** (MERKIN), 1911, A., i, 64.
- 1-Methylcyclohexyl methyl ketone** and its semicarbazone (WALLACH and HAWORTH), 1912, A., i, 569.
- 1-Methylcyclohexyl methyl ketone**, 4-hydroxy-, and its oxime and semicarbazone (WALLACH), 1910, A., i, 569.
- N*-**Methylcyclohexyl-*S*-*p*-nitrobenzylthiourethane** (v. BRAUN), 1903, A., i, 15.
- Methylisohexylpinacone** (CLARKE), 1909, A., i, 125.
- 1-Methylcyclohexyl-4-tartronic acid** and its barium salt (HOPE and PERKIN), 1909, T., 1368.
- p*-**Methylhippuric acid**, ethyl ester, and nitrile (KLAGES and HAACK), 1903, A., i, 560.
- Methylhomocamphoric acids**,  $\alpha$ - and  $\beta$ - (MINGUIN), 1904, A., i, 138.
- N*-**Methylhomo-cincholeupone** and **meroquinene** and their esters and salts (KOENIGS, BERNHART, and IBELE), 1907, A., i, 717.
- Methylhomoeriodictyl** (POWER and TUTIN), 1907, T., 895.
- 2-Methylhomolimonene** (*2-methyl-dihydrocarveol*) and its hydrobromide (RUPE and EMMERICH), 1908, A., i, 433.
- Methylhomonarceine** and its ethyl ester and their hydrochlorides (TAMBACH and JAEGER), 1906, A., i, 880.
- N*-**Methylhomopapaverinium** derivatives (DECKER and DUNANT), 1908, A., i, 205.
- Methylhomophthalic acid**, hydroxy-, methyl ester,  $\alpha$ - and  $\beta$ -, *m*-nitrobenzoates of (DIECKMANN and MEISER), 1908, A., i, 895.
- 1-Methylhydantoin** and bromo- (ANDREASCH), 1903, A., i, 157.



- 1 **Methylhydantoin**, action of bromine on (GABRIEL), 1906, A., i, 634.  
 *$\beta$ -acetyl derivative* (SIEMONSEN), 1904, A., i, 952.
- 3-**Methylhydantoin**, preparation of (WEITZNER), 1908, A., i, 841.  
oxine and phenylhydrazone (SCHMIDT and THUMANN), 1912, A., i, 719.
- 3-**Methylhydantoin**, chloro-, and hydroxy- (BEHREND and NIEMEYER), 1909, A., i, 258.
- 4-**Methylhydantoin** ( *$\alpha$ -lactylcarbamide*) and related compounds, action of bromine on (GABRIEL), 1907, A., i, 90.
- 4-**Methylhydantoin**, 2-thio- (WHEELER, NICOLET, and JOHNSON), 1911, A., i, 1032.
- Methylhydantoins**, isomerism of the (HARRIES and WEISS), 1903, A., i, 738; (HARRIES), 1908, A., i, 573.
- 1-**Methylhydantoylamide**, 5-hydroxy- (BILTZ and TOPP), 1911, A., i, 692.
- $\alpha$ -Methylhydracrylic acid* and its phenylhydrazide and phenylurethane (BLAISE and HERMAN), 1909, A., i, 633.
- Methylhydrastine**, oximino-derivative of (RABE and McMILLAN), 1911, A., i, 77.
- 1-**Methylhydrastinine** hydrochloride (FARBENFABRIKEN VORM. F. BAYER & Co.), 1911, A., i, 1015.
- p*-**Methylhydratropaldehyde** and its semicarbazone (AUWERS), 1906, A., i, 963; (DARZENS), 1907, A., i, 182.
- p*-**Methylhydratropic acid**,  *$\alpha$ -chloro-* (AUWERS), 1906, A., i, 963.
- Methylhydrazine**, acyl derivatives, constitution of (MICHAELIS and HADANCK), 1908, A., i, 1020.
- Methylhydrazine**, nitroso-, and its benzoyl derivative (THIELE), 1910, A., i, 888.
- N*-**Methylhydrazobenzene** (RASSOW and BERGER), 1911, A., i, 821.
- N*-**Methylhydrazo-*o*-toluene** (RASSOW and BECKER), 1911, A., i, 932.
- dl*-**Methylhydrindamine**, resolution of (TATTERSALL), 1903, P., 287; 1904, T., 169; (KIPPING), 1909, T., 411; P., 55.
- d*-bromocamphorsulphonates, isomeric (TATTERSALL and KIPPING), 1903, T., 918; P., 145; (KIPPING), 1903, T., 937; P., 166.
- d*-chlorocamphorsulphonates, isomeric (TATTERSALL), 1903, P., 288; 1904, T., 169.
- $\beta$* -**Methyl- $\alpha$ -hydrindamine** and its platinumchlorides and benzoyl derivatives (KIPPING and CLARKE), 1903, T., 913.
- dl-neo*-**Methylhydrindamine**. See *dl*-Neomethylhydrindamine.
- 1-**Methyl-1-hydrindenol**, 2:2:3:3-*di*-bromo- (SIMONS and KIRSCHTEN), 1912, A., i, 270.
- 2-**Methyl-1-hydrindone** and its oxime (KIPPING and CLARKE), 1903, T., 915.  
and its phenylhydrazone and semicarbazone (MITCHELL and THORPE), 1910, T., 2275.  
oxidation of (SALWAY and KIPPING), 1909, T., 166; P., 16.
- 2-**Methyl-1-hydrindone**, bromo- (SALWAY and KIPPING), 1909, T., 170.
- 4-**Methyl-1-hydrindone**, 7-hydroxy-, and its derivatives (AUWERS), 1912, A., i, 107.
- 1-**Methyl-2-hydrindone** and its semicarbazone (WALLACH and BESCHKE), 1904, A., i, 987.
- 1-**Methyl-2-hydrindone**, 1:3:3-*trichloro*-5-bromo- (FRIES and HEMPELMANN), 1909, A., i, 810.  
 *$\alpha$ -cyano-*, and its phenylhydrazone (MOORE and THORPE), 1908, T., 181; P., 13.
- 3-**Methyl-1-hydrindone-2-acetic acid**, 3-hydroxy-, lactone and semicarbazone of (STOBBE and ROSE), 1904, A., i, 503.
- 2-**Methyl-1-hydrindone-2-carboxylic acid**, ethyl ester, and its semicarbazone (MITCHELL and THORPE), 1910, T., 2274.
- p*-**Methylhydrocinnamic acid**. See  *$\beta$ -p*-Tolylpropionic acid.
- $\alpha$* -**Methylhydrocotarnine** and its additive salts (FREUND), 1904, A., i, 187.
- 1-**Methylhydrocotarnine**, oxidation of (FREUND and REITZ), 1906, A., i, 601.
- 3-[2-**Methylhydrocoumarilyl**]-4-methylcoumarin (FRIES and VOLK), 1911, A., i, 203.
- 1-[2-**Methylhydrocoumarilyl**]-2-methylhydrocoumarone and its oxime (FRIES and VOLK), 1911, A., i, 203.
- $\alpha$* -**Methylhydrohydrastinine** and its salts (FREUND and LEDERER), 1911, A., i, 906.
- 1-**Methylhydrothymine**, 5-bromo-4-hydroxy-, and 5-nitro-4-hydroxy- (JOHNSON and CLAPP), 1908, A., i, 835.
- 3-**Methylhydrothymine**, 5-nitro-4-hydroxy- (JOHNSON and CLAPP), 1908, A., i, 836.

- 4-Methyl-2-hydroxy-1-aminothionaphthen**, dibenzoyl derivative of (AUWERS and ARNDT), 1911, A., i, 588.
- Methylhydroxyazaurolie acid** and its metallic salts (WIELAND and HESS), 1909, A., i, 883.
- Methyl-*p*-hydroxybenzamide**, hydroxy- (EINHORN), 1905, A., i, 344.
- $\alpha$ -Methylhydroxycamphor**,  $\alpha$ -nitro- (FORSTER and WITHERS), 1911, P., 327; 1912, T., 1332.
- 3-Methyl-1:7- $\beta\beta'$ -*d*hydroxydiethyl-xanthine** (FARBENFABRIKEN VORM. F. BAYER & Co.), 1908, A., i, 475.
- 6-Methyl-2'-hydroxydiphenylamine; 2:4-dinitro-** (ULLMANN and SANÉ), 1912, A., i, 104.
- Methyl- $\beta$ -hydroxyethylaminoisobutyl-carbinol** (*ethanoldiacetonalkamine*), and its methyl derivative and their platinichlorides (KOHN), 1905, A., i, 929.
- and its acetate (KOHN and SCHLEGL), 1907, A., i, 682.
- 1-Methyl-3- $\alpha$ -hydroxyethylcyclohexan-3-ol** (HAWORTH, PERKIN, and WALLACH), 1911, T., 128.
- Methyl hydroxyethyl ketone** and its acetate (FARBENFABRIKEN VORM. F. BAYER & Co.), 1910, A., i, 706.
- 1-Methyl-3- $\alpha$ -hydroxyethylpiperidine** (LIPP and WIDNMANN), 1905, A., i, 663.
- 2-Methyl-6-hydroxyethylpyridine** (KOENIGS and HAPPE), 1903, A., i, 850.
- 4-Methyl-2- $\beta$ -hydroxyethylquinoline** and its salts (KOENIGS and MENGEL), 1904, A., i, 528.
- N*-Methylhydroxylamine**, dibenzoyl derivative (BECKMANN and NETSCHER), 1909, A., i, 391.
- Methylhydroxylaminohydrocoumarin** (FRANCISCONI and CUSMANO), 1909, A., i, 234.
- 3-Methyl-5-hydroxymethylbenzoic acid**, 2-hydroxy-, and its anhydride (ANILINFARBEN- & EXTRAKT-FABRIKEN VORM. J. R. GEIGY), 1911, A., i, 978.
- $\gamma$ -Methyl- $\alpha$ -hydroxymethyl- $\alpha$ -isobutyl-valeric acid**, and methyl and ethyl esters (FREYLLON), 1910, A., i, 359.
- 5-Methyl-2-hydroxymethylfuran** (BLANKSMA), 1912, A., i, 291.
- 4(or 5)-Methyl-5(or 4)-hydroxymethylglyoxaline** and its salts (EWINS), 1911, T., 2055; P., 259.
- 4-Methyl-5-hydroxymethyluracil** and its sodium salt (KIRCHER), 1912, A., i, 53.
- $\alpha$ -Methyl- $\gamma$ -hydroxyisopropyladipic acid**, *cis*- and *trans*-lactones of (PERKIN), 1910, T., 2144.
- $\beta$ -Methyl- $\gamma$ -hydroxyisopropyladipic acid**, lactone of, and its ethyl ester (PERKIN), 1911, T., 758.
- $\gamma$ -Methyl- $\alpha$ -hydroxyisopropyl- $\alpha$ -isobutyl-valeric acid** (FREYLLON), 1910, A., i, 359.
- d*-1-Methyl-3- $\alpha$ -hydroxyisopropylcyclohexan-3-ol** (HAWORTH, PERKIN, and WALLACH), 1911, T., 132.
- Methyl  $\alpha$ -hydroxyisopropyl ketone** and its semicarbazone (SCHMIDT and AUSTIN), 1903, A., i, 2, 3.
- Methyl  $\beta$ -hydroxyisopropyl ketone** (FARBENFABRIKEN VORM. F. BAYER & Co.), 1910, A., i, 706.
- 4-Methyl-2- $\alpha$ -*d*hydroxyisopropylquinoline** and its salts (KOENIGS and MENGEL), 1904, A., i, 528.
- 3-Methylhypoxanthine** and thio- (TRAUBE and WINTER), 1906, A., i, 390.
- $\beta$ -Methyliminoadipic acid**,  $\alpha$ -cyano-, ethyl hydrogen ester, and its silver salt (BEST and THORPE), 1909, T., 1536.
- $\alpha$ -Methylimino- $\alpha$ -benzoylpropionic acid** (MUMM and MÜNCHMEYER), 1911, A., i, 79.
- $\alpha$ -Methylimino- $\beta$ -benzoylpropionitrile** (MUMM and MÜNCHMEYER), 1911, A., i, 79.
- Methyliminodiacetic acid**, derivatives of (FRANCHIMONT and DUBSKY), 1912, A., i, 753.
- dimethyl ester, nitroso-derivative, and its refraction (STADNIKOFF), 1909, A., ii, 843.
- 2-Methylimino-5:5-diethylhexahydropyrimidone**, 4-imino- (MERCK), 1907, A., i, 1089.
- 2-Methylimino-4:6-dimethyldihydropyrimidine** (MAJIMA and KOBAYASKI), 1908, A., i, 224.
- 2-Methylimino-3:4-dimethyl-2:3-dihydrothiazole hydriodide** (YOUNG and CROOKES), 1905, P., 308.
- $\beta$ -Methyliminodipropaldehyde** tetra-ethylacetal (WOHL and JOHNSON), 1908, A., i, 49.
- Methylimino-groups**, detection of (HERZIG), 1908, A., ii, 638.
- estimation of (GOLDSCHMIEDT and HONIGSCHMID), 1904, A., ii, 94; (KIRPAL), 1908, A., ii, 436.
- 4-Methylimino-1-methyl-5:5-diethylbarbituric acid** (CONRAD and ZART), 1905, A., i, 753.
- 2-Methylimino-4-methyltetrahydro-6-pyrimidone** and its additive salts (MAJIMA), 1908, A., i, 223.
- 5-Methylimino-1-phenyl-2:3-di- and -2:3:4-tri-methylpyrazolones** and their additive salts (STOLZ), 1904, A., i, 114.

**Methyliminophthalanil** (REISSERT and HOLLE), 1911, A., i, 982.

**Methyliminophthalimide**, hydroxy- (BRAUN and TSCHERNIAC), 1907, A., i, 625.

**1-Methyliminopyrine**. See 1:2:3-Tri-methylpyrazole, 2:5-imino-.

**Methyliminothiolcarbonic acid**, dimethyl, and methyl ethyl esters of, and their picrates (DELÉPINE), 1910, A., i, 613.

**5-Methylimino-1:2:3-triphenylcyclohexan-1-ol-4-carboxylic acid**, ethyl ester (RABE and EHRENSTEIN), 1908, A., i, 553.

**$\alpha$ -Methylin**. See Glyceryl monomethyl ether.

**2-Methylindamine**, 4-hydroxy- (HELLER), 1912, A., i, 918.

**Methylindanthren** (FARBENFABRIKEN VORM. F. BAYER & Co.), 1911, A., i, 925.

**6-Methylindazole**, 5:7-dinitro-, and its salts and acetyl derivative (ZINCKE and ELLENBERGER), 1905, A., i, 486.

**7-Methylindazole** and its nitroso-derivative, and the action of copper powder on (JACOBSON and HUBER), 1908, A., i, 299.

**Methylindazoles** and their amino- and nitro-derivatives, and their acyl compounds (NOELTING), 1904, A., i, 691.

**1-Methylindene**, 1:2:3-*tri*bromo-, and its acetyl derivative (SIMONIS and KIRSCHTEN), 1912, A., i, 270.

**3-Methylindene** and its nitrosochloride and 2-nitro- (WALLACH and BESCHKE), 1904, A., i, 987.

**1-Methylindene-2-carboxylic acid** and its esters (THIEL and RÜDIGER), 1906, A., i, 588.

**1-Methylindene-3-oxalic acid** and its esters and -3- $\alpha$ -hydroxyacetic acid, methyl ester (THIELE and RÜDIGER), 1906, A., i, 587.

**1-Methyl-1-indenol**, 2:3-*di*bromo- and 3-bromo-2-iodo- (SIMONIS and KIRSCHTEN), 1912, A., i, 270.

**Methylindigotin** from indole in urine (BENEDICENTI), 1907, A., ii, 980.

**1-Methylindigotin** (ETTINGER and FRIEDLÄNDER), 1912, A., i, 728.

**Methylindigotins**, *o*- and *p*-, synthesis of (SANDMEYER and CONZETTI), 1903, A., i, 486.

**1-Methylindole**, new method of preparing (CARRASCO and PADOA), 1907, A., i, 152.

**1-Methylindole**, 2:3-*di*chloro- (MAZZARA and BORGO), 1906, A., i, 304.  
2-chloro-3-bromo- (MAZZARA and BORGO), 1905, A., i, 925.

**2-Methylindole** (*methylketole*), formation of, from quinoline (PADOA and CARUGHI), 1906, A., i, 765.  
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condensation of, with formaldehyde (VOISENET), 1909, A., i, 607.

action of hippuryl chloride on (FISCHER and KAAS), 1906, A., i, 455.

action of sulphuryl chloride on (MAZZARA and BORGO), 1905, A., i, 827.

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*perchlorate* (HOFMANN, METZLER, and HÖBOLD), 1910, A., i, 370.

**2-Methylindole**, 6-amino-, and its 3-carboxylic acid, ethyl ester, and their salts and acyl derivatives (REISSERT and HELLER), 1905, A., i, 60.

3-iodo- (OSWALD), 1909, A., i, 512.  
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4-nitro-1-hydroxy-, and its methyl ether (BORSCHKE and RANTSCHKEFF), 1911, A., i, 332.

**3-Methylindole**. See Scatole.

**3-Methylindole-3-aldehyde** (2-*methyl-3-methylalindole*) and its *p*-nitrophenylhydrazone, picrate, and semicarbazone (PLANCHER and PONTI), 1907, A., i, 342.

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**2-Methylindole-3-aldoxime** (KÖNIG), 1911, A., i, 809.

**2-Methylindole-3-arsinic acid** and its salts and 5-chloro- (BOEHRINGER & SÜHNE), 1912, A., i, 523.

**1-Methylindole-3(or 2)-carboxylic acid**, 2(or 3)-amino- (REIF), 1909, A., i, 834.

**2-Methylindole-3-carboxylic acid** and its barium salt and ethyl ester (ODDO), 1912, A., i, 649.



- 2-Methylindole-3-carboxylic acid**, 4-amino-, ethyl ester (BORSCHÉ and RANTSCHÉFF), 1911, A., i, 332.
- 6-amino-, ethyl ester** (REISSERT and HELLER), 1905, A., i, 60.
- 3-Methylindole-1- and -2-carboxylic acids and their derivatives** (ODDO), 1912, A., i, 649.
- 1-Methylindole-2:3-dicarboxylic acid and its derivatives** (REIF), 1909, A., i, 833.
- Methylindolesulphonic acids** (FARBEN-FABRIKEN VORM. F. BAYER & CO.), 1903, A., i, 516.
- 1-Methylindoline** (CARRASCO), 1908, A., i, 913.
- 4-Methylindoloanthrone and its polymeride** (SCHOLL and TRITSCH), 1912, A., i, 37.
- 3-Methyl-1-indone-2-acetic acid and its semicarbazone** (STOBBE and ROSE), 1904, A., i, 503.
- 3-Methylindophenol**, 4'-amino- (HELLER), 1912, A., i, 918.
- Methylindophenols and their derivatives** (HELLER), 1910, A., i, 917.
- 2-Methylindyl-3-benzoquinone and its derivatives** (MÖHLAU and REDLICH), 1912, A., i, 129.
- Methylodocasein** (SKRAUP and KRAUSE), 1909, A., i, 748.
- Methyl  $\beta$ -iodoethyl ether** (KARVONEN), 1909, A., i, 202.
- Methyl- $d\alpha$ -iodopropionyl- $l$ -tryptophan** (ABDERHALDEN and BAUMANN), 1908, A., i, 932.
- Methyl- $\psi$ -ionone and its hydrate and semicarbazone** (COULIN), 1904, A., i, 678.
- hydrate, preparation of (COULIN), 1908, A., i, 1000.
- Methylionones**, four isomeric, and their semicarbazones (HAARMANN and REIMER), 1904, A., i, 595.
- 6-Methyl-2-irazoline and its hydrochloride and benzoyl derivative** (GASDA), 1906, A., i, 41.
- Methyliridic acid**. See 3:4:5-Trimethoxyphenylacetic acid.
- $o$ -Methylisatin**, preparation of, and its oxime and phenylhydrazone (BAUER), 1908, A., i, 695.
- 1-Methylisatin**, 2-dichloro-, and its salts (KOHN and KLEIN), 1912, A., i, 800.
- 4-Methylisatin**, melting point of (BAUER), 1908, A., i, 208.
- 6-Methylisatin** (FINDEKLEE), 1906, A., i, 43.
- oxime and phenylhydrazone (BAUER), 1909, A., i, 467.
- Methylisatins and their derivatives** (BAUER), 1907, A., i, 603.
- 1-Methylisatin-2-anil** (PUMMERER and GRUBE), 1911, A., i, 231.
- 1-Methylisatin- $p$ -chloroanil**, 5-chloro- (ETTINGER and FRIEDLÄNDER), 1912, A., i, 728.
- Methylisatin- $\alpha$ - $o$ - and - $p$ -toluidides**,  $o$ - and - $p$ - (SANDMEYER and CONZETTI), 1903, A., i, 487.
- $p$ -Methylisatin- $p$ -tolylimide** (HELLER and EMBICH), 1904, A., i, 730.
- $N$ -Methylisatoic anhydride** (HOUBEN and FREUND), 1909, A., i, 795.
- Methylitaconic acid** (*ethylidenesuccinic acid*) and its attempted conversion to methylaconic acid (FITTIG and SCHEEN), 1904, A., i, 418.
- dibromide (FITTIG and SCHEEN), 1904, A., i, 555.
- $\alpha$ -Methylitamalic acid**, calcium salt (FICHTER and RUDIN), 1904, A., i, 473.
- Methylketen**, preparation of (STAUDINGER, KLEVER, and MAYER), 1911, A., i, 307.
- Methyl- $\alpha$ -ketol  $\alpha$ -methyladipate and  $\alpha$ -methyl- $\delta$ -isopropyladipate and their disemicarbazones** (BOUVEAULT and LOCQUIN), 1908, A., i, 173.
- Methylketole**. See 2-Methylindole.
- Methyl ketones**, synthesis of (BARBIER and LOCQUIN), 1911, A., i, 708, 725.
- 2-Methylkynurine and its  $O$ -methyl and -ethyl ethers** (MEYER), 1907, A., i, 241.
- $d\alpha$ -Methyl-lactic acid**,  $\beta$ -bromo- (KAY), 1909, T., 562; P., 90.
- Methyl-lactoside and its hepta-acetyl derivatives** (DITMAR), 1903, A., i, 151.
- Methyl lævulose and its derivatives** (IRVINE and HYND), 1909, T., 1220; P., 176.
- Methyl- $\alpha$ -lævulosediacetone**, preparation of (IRVINE and HYND), 1909, T., 1223; P., 176.
- 2-Methyl-laurenone** (2:3:3:4-tetra-methyl- $\Delta^1$ -cyclopenten-5-one) and its derivatives (LOCQUIN), 1911, A., i, 792.
- $d\alpha$ - $N$ -Methyl-leucylglycine and its anhydride** (FISCHER and GLITZ), 1909, A., i, 887.
- Methyl-lutidinophenylpyrazolone**, and its salts and methiodide (MICHAELIS and KRIETEMEYER), 1909, A., i, 531.
- Methyl-lutidonopyrazolone and salts of** (MICHAELIS and KRIETEMEYER), 1909, A., i, 531.
- Methyl- $d$ -lyxonic acid**,  $\alpha$ -hydroxy-, salts and derivatives of (NEF), 1910, A., i, 714.

- Methyl-*d*-lyxonic acid**,  $\alpha$ -hydroxy-, brucine and quinine salts and phenylhydrazide (SPOHR), 1910, A., i, 221.
- d*- $\beta$ -Methylmalamic acid**, synthesis of (LUTZ), 1910, A., i, 230.
- Methylmalic acid**, synthetical, resolution of (BURACZEWSKI and MARCHLEWSKI), 1905, A., i, 400.
- Methylmalonic acid (isosuccinic acid)** and its derivatives (MEYER and BOCK), 1906, A., i, 726.  
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- Methylmalonic acid**, ethyl hydrogen ester, and its potassium salt, amide, and chloride (MARGUERY), 1905, A., i, 507.  
ethyl ester, action of, on aniline, *p*-toluidine, and *p*-aminophenol and its ethers (COMANDUCCI and LOBELLO), 1905, A., i, 271.  
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sodium derivative, action of, on ethyl chloroacetate (MICHAEL), 1905, A., i, 856.  
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- Methylmalonic acid**, bromo-, methyl ester (BISCHOFF), 1907, A., i, 773.  
 $\beta$ -bromo-, ethyl ester, preparation and reduction of (SIMONSEN), 1908, T., 1783.
- Methylmalonylbis-1-amino-2:5-dimethylpyrrole-3:4-dicarboxylic acid**, ethyl ester (BÜLOW and WEIDLICH), 1906, A., i, 982.
- Methylmalonylbishydrazoneacetoacetic acid**, ethyl ester (BÜLOW and BOZENHARDT), 1910, A., i, 103.
- Methylmalonylcarbamides**. See Methylbarbituric acids.
- Methylmalonyldiacetylhydrazide** (BÜLOW and WEIDLICH), 1906, A., i, 982.
- Methylmalonyldihydrazide** (BÜLOW and WEIDLICH), 1906, A., i, 982.
- $\alpha$ -Methylmannoside**, alkylation of (IRVINE and MOODIE), 1905, T., 1462; P., 227.
- $\alpha$ -Methylmeconine** (SIMONIS, MARBEN, and MERMOD), 1906, A., i, 32.  
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- Methylmenthadiene** (RUPE and EMMERICH), 1908, A., i, 433.
- 3-Methyl- $\Delta^{2(8/9)}$ -menthadiene** (RUPE and EBERT), 1908, A., i, 663.
- 3-Methyl- $\Delta^{4(8)}$ -menthadiene** (RUPE and EMMERICH), 1908, A., i, 556.
- 2-Methyl- $\Delta^{6(8/9)}$ -menthadien-2-ol** and - $\Delta^{2:6:8(9)}$ -menthatriene (RUPE and LEICHTENHAN), 1906, A., i, 374; (KLAGES and SOMMER), 1906, A., i, 567.
- 2-Methylmenthane**, 2:8-*di*hydroxy- (RUPE and EMMERICH), 1908, A., i, 433.
- 3-Methylmenthan-3-ol** (1:3-dimethyl-6-isopropylcyclohexan-1-ol) (VANIN), 1912, A., i, 788.
- 2-Methylmenthatriene** (RUPE and EMMERICH), 1908, A., i, 433.  
optical constants of (KLAGES), 1907, A., i, 598.
- 3-Methyl- $\Delta^{6(9)}$ -menthene**, 3-chloro- (RUPE and EBERT), 1908, A., i, 663.
- Methylmenthone** (ARBUSOFF), 1908, A., i, 555.  
and its semicarbazone (RUPE, SCHOBEL, and ABEGG), 1912, A., i, 573.
- N*-Methylmeroquinine** and its derivatives (RABE and RITTER), 1907, A., i, 78.
- Methylmeroquinine**, derivatives of (RABE and RITTER), 1905, A., i, 811.
- Methylmesaconic acid**, oxidation of (FITTIG and DANNENBERG), 1904, A., i, 555.
- Methylmesidine** and its acetyl derivative (BAMBERGER and RUDOLF), 1907, A., i, 122.  
and nitroso- (ÜLLMANN), 1903, A., i, 395.
- 1-Methyl-3-methenyl-1-cyclohexene** (AUWERS and EISENLOHR), 1911, A., ii, 782.
- Methylmethoxyisopropylketoxime** and its benzoyl derivative and phenylcarbinol (SCHMIDT and AUSTIN), 1903, A., i, 2, 3.
- Methyl- $\beta$ -methylallylaminoisobutylcarbinol** and its additive salts (KOHN and SCHLEGEL), 1907, A., i, 683.
- Methyl- $\beta$ -methylaminoisomylcarbinol** and its bromo-derivative (KOHN), 1907, A., i, 679.
- Methyl- $\beta$ -methylaminoisobutylcarbinol** (methyldiacetonalkamine), aurichloride (KOHN), 1905, A., i, 929.
- Methyl methylaminobutyl ketone** and its oxime and semicarbazone and their hydrochlorides (LIFF and WIDMANN), 1905, A., i, 662.
- Methyl- $\beta$ -methylaminoisohexylcarbinol** and its additive salts and nitroso-derivative (KOHN and GIACONI), 1907, A., i, 680.

- 4(or 5)-Methyl-5(or 4)-methylamino-methylglyoxaline and its salts (EWINS), 1911, T., 2058; P., 259.
- Methyl  $\alpha$ -methylbutyl ketone** (AHRENS and BLÜMEL), 1903, A., i, 813.
- 2-Methyl-4-methylene-1:4-benzopyranol-3-phthalylaldehydic acid, 7:8-di-hydroxy-**, lactone of, and its additive salts (BÜLOW and DESENISS), 1906, A., i, 966.
- 5-Methyl-2-methylenecoumaran, 1:1:4:6-tetrabromo-** (FRIES and VOLK), 1910, A., i, 333.
- 5-Methyl-2-methylenecoumaran-1-one, 4:6-di-bromo-**, and its methyl ester (FRIES and VOLK), 1910, A., i, 333.
- 4-Methyl-5-methylenedihydrouracil, 4-bromo-** (KIRCHER), 1912, A., i, 54.
- $\beta$ -Methyl- $\delta$ -methyleneheptane** (CLARKE and BEGGS), 1912, A., i, 150.
- $\beta$ -Methyl- $\epsilon$ -methyleneheptane** (CLARKE and BEGGS), 1912, A., i, 151.
- 1-Methyl-2-methylenecyclohexane** and its oxidation and nitrosochloride and nitrolamine with piperidine (WALLACH and BESCHKE), 1906, A., i, 565.
- 1-Methyl-3-methylenecyclohexane** and its oxidation, and nitrosochloride and nitrolamine with piperidine (WALLACH and BESCHKE), 1906, A., i, 566.
- 1-Methyl-4-methylenecyclohexane** (MARCKWALD and METH), 1906, A., i, 584, 663.  
and its oxidation, and nitrosochloride and nitrolamine with piperidine (WALLACH and EVANS), 1906, A., i, 566.
- $\beta$ -Methyl- $\epsilon$ -methylene- $\Delta^7$ -hexinen- $\beta$ -ol** (DUPONT), 1911, A., i, 174.
- 4-Methyl  $\alpha$ -methylnequinone, 3:5:6-tri-bromo-** (ZINCKE and BREITWIESER), 1911, A., i, 216.
- Methyl- $\beta$ -methylethylaminoisobutylcarbinol** and its methiodide and their salts and its benzoate (KOHN and MORGENSTERN), 1907, A., i, 682.
- Methyl methylfructoside** (IRVINE and HYND), 1909, T., 1227.
- Methyl- $\beta$ -methylhydroxyethylaminoisobutylcarbinol** (*ethanolmethyldiaceton-alkamine*) and its platinumchloride (KOHN), 1905, A., i, 929.
- Methyl  $\beta$ -methyloctyl ketone** and its semicarbazone (BOUVEAULT and LOCQUIN), 1905, A., i, 18.
- Methyl- $\beta$ -methylpropylaminoisobutylcarbinol** and its additive salts (KOHN and SCHLEGL), 1907, A., i, 683.
- Methyl  $\alpha$ -methylpropyl ketone** and its oxime, phenylhydrazine, and semicarbazone (COURTOT), 1906, A., i, 926.
- Methylmorindanol** (BARROWCLIFF and TUTIN), 1907, T., 1918; P., 249.
- Methylmorphimethine**, formula of (KNORR), 1905, A., i, 814.  
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methyl ether, salts of (KNORR and ROTH), 1911, A., i, 1015.  
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- Methylmorphimethine**, chloro-, transformation of, into the quaternary salts of a cyclic base from phenanthrene (PSCHORR and DICKHÄUSER), 1910, A., i, 425.  
hydroxy-. See Ketodihydromethylmorphimethine.
- $\alpha$ -Methylmorphimethine**, transformation of, into the  $\beta$ -compound by heat, and their crystallographic behaviour (PSCHORR, ROTH, and TANNHÄUSER), 1906, A., i, 204.
- $\alpha$ -Methylmorphimethine**, bromo-, and its derivatives (VONGERICHTEN and DENDORFF), 1907, A., i, 1069.
- $\epsilon$ -Methylmorphimethine** and its derivatives (KNORR and HÖRLEIN), 1907, A., i, 151.  
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- $\zeta$ -Methylmorphimethine** (KNORR, HÖRLEIN, and GRIMME), 1907, A., i, 957.
- Methylmorphimethines**,  $\alpha$ - and  $\beta$ -, action of bromine on (VONGERICHTEN and HÜBNER), 1907, A., i, 718.
- $\gamma$ -,  $\delta$ -, and  $\epsilon$ -Methylmorphimethine methyl ethers and their hydriodides (PSCHORR and DICKHÄUSER), 1912, A., i, 579.
- Methylapomorphine** and its acetyl and benzoyl derivatives and their salts (PSCHORR, JAECKEL, and FECHT), 1903, A., i, 194.
- Methylmorphinium** methosulphite (GERBER), 1911, A., i, 154.
- Methylapomorphinium salts** (GERBER), 1911, A., i, 154.
- Methylmorphol**. See 3-Methoxyphenanthrene, 4-hydroxy-.
- 2-Methyl-1-2-naphthacarbazole** (ULLMANN, DELÉTRA, and KOGAN), 1909, A., i, 776.
- 4-Methyl- $\alpha$ -naphthacoumarin**, azo-derivatives of (HEWITT and MITCHELL), 1906, T., 17.
- 4-Methyl- $\beta$ -naphthacoumarin**, dibromide, and bromo-, and nitro-derivatives (BACOVESCU), 1910, A., i, 406.
- 1-Methylnaphthalene, 2:3-quinone of** (FRIES and EMPSON), 1909, A., i, 809.



- 1-Methylnaphthalene**, 2,4-*di*-amino-, and its 3-carboxylic acid and its ethyl ester, and their additive salts (ALKINSON and THORPE), 1906, T., 1924; P., 282.
- ω*-2-*trichloro*- (SACHS and BRIGL), 1911, A., i, 720.
- 4-chloro-6-bromo-2,3-*di*-hydroxy-, and its diacetyl derivative (FRIES and HEMPELMANN), 1909, A., i, 810.
- 4-chloro-6-bromo-1,2-*di*-nitro-2,2:3,3-*tetrahydroxy*- (FRIES and EMPSON), 1909, A., i, 809.
- 2-Methylnaphthalene**, *pentabromo*- (BODROUX and TABOURY), 1909, A., i, 707.
- 1-Methylnaphthalene-*N*-phthaloylic acid**, 2-amino- (SCHOLL, NEUBERGER, TRITSCH, and POTSCHWAUSCHEG), 1912, A., i, 563.
- 1-Methylnaphthalene-6-phthaloylic acid**, 2-amino-, and 2-hydroxy- (SCHOLL, NEUBERGER, TRITSCH, and POTSCHWAUSCHEG), 1912, A., i, 564.
- N*-Methyl- $\beta$ -naphthamorpholine**, and its sulphocamphylate and methiodide (LEES and SHEDDEN), 1903, T., 762; P., 133.
- N*-Methyl- $\beta$ -naphthamorpholone**, preparation and electrolytic reduction of (LEES and SHEDDEN), 1903, T., 758; P., 133.
- 9-Methyl- $\alpha\beta$ -naphthaphenazine** (NOELTING, GRANDMOUGIN, and FREIMANN), 1909, A., i, 443.
- and 8-amino-, and its additive salts and *N*-acetyl derivative, 8-amino-2-hydroxy-, and 8-amino-6-hydroxy- (ÜLLMANN and ANKERSMIT), 1905, A., i, 553.
- 11-Methyl- $\beta\beta$ -naphthaphenazine**, 6-chloro-8-bromo- (FRIES and HEMPELMANN), 1909, A., i, 810.
- Methylnaphthaphenazonium salts**, 1:3-*di*-amino- (KEHRMANN and RIERA Y PUNTI), 1911, A., i, 928.
- 2-Methylisophenaphthaphenazononium salts**, 9-amino- (KEHRMANN, DE GOTTRAU, and LEEMANN), 1907, A., i, 555.
- 1:2-Methylnaphthaquinotrole** and 6-*mono*- and 3:6-*di*-bromo- (FRIES and HÜBNER), 1906, A., i, 191.
- 3-*mono*- and 3:4-*di*-chloro- (FRIES and HEMPELMANN), 1908, A., i, 731.
- 4-chloro-6-bromo-3-hydroxy- (FRIES and EMPSON), 1909, A., i, 809.
- 1-Methyl-2-naphthaquinol**, 3-*mono*- and 3:4-*di*-chloro-, and their acetates (FRIES and HEMPELMANN), 1908, A., i, 731.
- 1-Methyl-2-naphthaquinol**, 3:4-*di*-chloro-, and its methoxy-derivatives (FRIES and HEMPELMANN), 1908, A., i, 730.
- 1:2-Methylnaphtha- $\psi$ -quinol** and its oxime (BARGELLINI and SILVESTRI), 1907, A., i, 914.
- and 6-*mono*- and 3:6-*di*-bromo-, and their acetyl derivatives, and 6-bromo-3-nitro- (FRIES and HÜBNER), 1906, A., i, 191.
- 4-Methyl-1-naphthaquinoline**, 7-amino-2-hydroxy-, and its diacetyl, benzoyl, and benzylidene derivatives (FINGER and SPITZ), 1909, A., i, 523.
- 1-Methyl-2:3-naphthaquinone**, 4-chloro-6-bromo- (FRIES and EMPSON), 1909, A., i, 809.
- N*-Methylnaphthaquinoxalone** (FISCHER and SCHINDLER), 1908, A., i, 222.
- Methylnaphthiminazole** (*ethenyl*-*di*-amino-*naphthalene*) (MELDOLA and LANE), 1905, P., 24.
- and its salts, and its *N*-methyl and *N*-ethyl derivatives and their salts (MELDOLA, EYRE, and LANE), 1903, T., 1190; P., 205.
- N*-ethyl derivative, salts of (MELDOLA and LANE), 1904, T., 1599; P., 214.
- (Prager's) and its *N*-ethyl derivative and their salts (MELDOLA, EYRE, and LANE), 1903, T., 1196; P., 205.
- Methylnaphthiminazole**, amino-, (*ethenyl*-*tri*-amino-*naphthalene*) and its salts and the *N*-ethyl derivative of the acetyl compound and its salts (MELDOLA, EYRE, and LANE), 1903, T., 1185; P., 205.
- (Markfeldt's), its formation from its isomeride and its salts and derivatives (MELDOLA, EYRE, and LANE), 1903, T., 1198; P., 205.
- Methylnaphthiminazoles**, amino-, isomeric, replacement of the amino-group in, by bromine (MELDOLA and LANE), 1904, T., 1597; P., 214.
- $\mu$ -**Methyl-1:2-naphthiminazole-7-sulphonic acid**, 5-hydroxy- (FARBEN-FABRIKEN VORM. F. BAYER & Co.), 1906, A., i, 900.
- 1-Methyl- $\beta$ -naphthindole**, preparation and hydrogenation of, and its sulphonic acid, sodium salt (PSCHORR and KARO), 1906, A., i, 886.
- 1-Methyl- $\beta$ -naphthol** and its picrate and benzoyl derivative, and hydroxy- (BETTI and MUNDICI), 1907, A., i, 322.

- 1-Methyl- $\beta$ -naphthol, and 6-*mono*- and 3:6-*di*-bromo-, and their ethers and acetyl derivatives, and 6-bromo-3-amino-, and its acetyl derivatives, and 6-bromo-3-nitro- (FRIES and HÜBNER), 1906, A., i, 191.  
preparation of, and its benzoate and ethyl ether (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1906, A., i, 257.  
keto-chlorides of, and their relation to  $\beta$ -naphthaquinols and 3-*mono*- and 3:4-*di*-chloro-, and their acetates (FRIES and HEMPELMANN), 1908, A., i, 730.
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6:7:9-trichloro- (FICHTER and KÜHNEL), 1910, A., i, 107.
- 2'- and 4'-Methyl- $\alpha$ -naphthoylbenzoic acids (SCHOLL and TRITSCH), 1912, A., i, 36.
- Methyl- $\beta$ -naphthylamine,  $\omega$ -cyano- (BUCHERER), 1905, A., i, 438.
- 1-Methyl-2-naphthylamine and its acetyl derivative and hydrochloride (BARGELLINI and SILVESTRI), 1907, A., i, 915.  
and its sulphate and acetyl derivative (FRIES and HÜBNER), 1906, A., i, 191.
- Methylnaphthylazocarbonamide (BARGELLINI and SILVESTRI), 1907, A., i, 915.
- 2-Methyl-6:8-naphthylenediamine and its additive salts and diacetyl derivative and 7-carboxylic acid and its ethyl ester (ATKINSON and THORPE), 1907, T., 1708; P., 216.
- Methyl-5:7-naphthylenediamines, 1- and 2-, and their additive salts and diacetyl derivatives and 6-carboxylic acids and their ethyl esters (ATKINSON and THORPE), 1907, T., 1700; P., 216.
- 5-Methylnaphthylphenylmethane-2'-carboxylic acid, 6-hydroxy- (SCHOLL, NEUBERGER, TRITSCH, and POTSCHWAUSCHEG), 1911, A., i, 563.
- 1-Methyl-2-naphthylphthalimide (SCHOLL, NEUBERGER, TRITSCH, and POTSCHWAUSCHEG), 1912, A., i, 563.
- 3-Methyl- $\beta$ -2-naphthylthiosemicarbazide (BUSCH and REINHARDT), 1910, A., i, 77.
- $\omega$ -4'-Methyl- $\alpha$ -naphthyl-*o*-toluic acid and its ammonium salt and  $\omega$ -hydroxy-, lactone of (SCHOLL and TRITSCH), 1912, A., i, 36.
- Methylnarceine and its salts (TAMBACH and JAEGER), 1906, A., i, 879.  
hydrochloride (KNOLL & Co.), 1907, A., i, 958.  
metho-benzenesulphonate, -nitrate, and -sulphate, and its dimethyl ether, methophosphate of (KNOLL & Co.), 1907, A., i, 1070.
- Methylnarcotine methiodide (RABE and McMILLAN), 1911, A., i, 78.
- Methylnarcotinium salts (GERBER), 1911, A., i, 154.
- Methylnataloe-*emodin* and its pentabromide and diacetyl derivative (LÉGER), 1905, A., i, 532.
- Methylnitrosamine, formation of (VAN ROMBURGH and MAURENBRECHER), 1907, A., i, 572.  
action of phenylcarbimide on (SCHOLL and HOLDERMANN), 1906, A., i, 767.
- 1-Methylnitrosamino-3:5-dimethoxybenzene, 2:9-*di*nitro- (BLANKSMA), 1908, A., i, 979.
- Methylnitrosamino-*p*-phenetidine, 3:5-*di*nitro- (REVERDIN and LIEBL), 1912, A., i, 440.
- Methyl nitrosoisobutyl ketone (*nitroso-propylacetone*) (HARRIES and FERRARI), 1903, A., i, 320.
- Methyl- $\alpha$ -nitrosoisobutyric acid (STEINKOPF and SUPAN), 1911, A., i, 946.
- Methylnitrosic acid, bromo- (PONZIO and CHARRIER), 1907, A., i, 814.  
chloro- (PONZIO), 1907, A., i, 744.  
cyano- (STEINKOPF, BOHRMANN, GRÜNUPP, KIRCHHOFF, JÜRGENS, and BENEDEK), 1910, A., i, 306.  
and its ammonium and silver salts (WIELAND), 1909, A., i, 216.
- m*-Methylnitrosoaminobenzoic acid and its ethyl ester (HOUBEN and BRASSETT), 1910, A., i, 170.
- p*-Methylnitrosoaminobenzoic acid, ethyl ester (HOUBEN, SCHOTTMÜLLER, and BRASSETT), 1909, A., i, 922.
- 4-Methylnitrosamino-3:3'-dimethylphenyl-4'-azo- $\beta$ -naphthol (RASSOW and BECKER), 1911, A., i, 932.
- 4-Methylnitrosamino-3:3'-dimethyldiphenyl-4'-diazonium chloride (RASSOW and BECKER), 1911, A., i, 932.
- 4-Methylnitrosoaminodiphenyl-4'-azo-*p*-dimethylaniline and its hydrochloride (RASSOW and BERGER), 1911, A., i, 821.
- 4-Methylnitrosoaminodiphenyl-4'-diazonium chloride (RASSOW and BERGER), 1911, A., i, 821.

**Methylnitrosoamino-*o*- and -*p*-phenetidines**, 3:5-dinitro- (REVERDIN and LIEBL), 1912, A., i, 440.

**$\alpha$ -Methylnitrosoaminopropionic acid**,  $\beta$ -amino- (TAFEL and FRANKLAND), 1909, A., i, 829.

**6-Methylnitrosoamino-*m*-toluic acid** (HOUBEN, SCHOTTMÜLLER, and FREUND), 1910, A., i, 35.

**Methyl  $\beta$ -nitrosoisobutyl ketones**, isomeric (HARRIES), 1903, A., i, 461.

**Methylnitrosolic acid** and its metallic salts, and allied compounds (WIELAND and HESS), 1909, A., i, 882.

**Methylnitrosolic acid**, amino-, and its salts and benzoyl derivative (WIELAND), 1905, A., i, 421.

**1-Methyldicyclo-[1,3,3]-nonan-5-ol**, 7-amino-, isomeric (RABE and EHRENSTEIN), 1908, A., i, 553.

**Methyldicyclo-nonanolone** and its acetate, -nonane-5:7-diol and its diacetate, and -nonane (RABE), 1904, A., i, 509.

and its oximes and their amines (RABE and JAHR), 1908, A., i, 553.

**$\alpha$ -Methylnonoic acid**. See Decoic acid.

**$\beta$ -Methyl-nonoic acid**,  $\beta$ -hydroxy-, and - $\Delta^{\alpha}$ -nonenoic acid, ethyl esters (BOUVEAULT and BLANC), 1905, A., i, 12.

**Methylnonylacetaldehyde** and its semicarbazone (DARZENS), 1907, A., i, 182.

**$\beta$ -Methylnonyl alcohol** and its acetate (GUERBET), 1903, A., i, 61.

**$\gamma$ -Methylnonyl alcohol** (BOUVEAULT and BLANC), 1903, A., i, 730; 1905, A., i, 12.

**Methylnonylcarbinol** (*undecyl alcohol*) (THOMS and MANNICH), 1903, A., i, 673; (BLAISE and GUÉRIN), 1904, A., i, 142.

and its acetate (HOUBEN), 1903, A., i, 48.

and its phenylurethane (BOUVEAULT and BLANC), 1905, A., i, 12.

hydrogen succinate of (PICKARD and KENYON), 1911, T., 59.

***d*-Methyl-*n*-nonylcarbinol** (HALLER and LASSIEUR), 1910, A., i, 808.

and its hydrogen phthalate and brucine and strychnine salts of the latter (PICKARD and KENYON), 1911, T., 60, 70.

**Methylnonylcarbinolpinacone** (HOUBEN), 1903, A., i, 48.

**Methylnonylglycidic acid**, ethyl ester (DARZENS), 1907, A., i, 178.

**Methyl nonyl ketone** ( $\beta\zeta$ -*dimethyl- $\Delta^{\alpha}$ -nonen-6-one*) and its oxime and semicarbazone (RUPE, PFEIFFER, and SPLITTGERBER), 1907, A., i, 712.

from German oil of rue (HOUBEN), 1903, A., i, 48.

condensation of (THOMS and MANNICH), 1903, A., i, 679.

condensation of, with aminoguanidine (THOMS and MANNICH), 1903, A., i, 673.

conversion of, into ethyl octyl ketone (MANNICH), 1903, A., i, 678.

**Methyl nonyl ketoxime**, transformation of (HOUBEN), 1903, A., i, 48.

**Methylnopinol**. See Homopinol.

**4-Methylnorcaradienecarboxylic acid**, ethyl ester, and amide (BUCHNER and FELDMANN), 1904, A., i, 57.

**Methylnorhemipinil**, 6-nitro-, and its acetyl derivative (WEGSCHEIDER and KLEMENC), 1911, A., i, 542.

**Methylnorhemipin-1-anilic acid**, 6-nitro-, and its salts and methyl ester (WEGSCHEIDER and KLEMENC), 1911, A., i, 541.

**Methylnorhemipin-2-anilic acid**, 6-nitro- (WEGSCHEIDER and KLEMENC), 1911, A., i, 541.

**Methylnorhemipinic acid**, 6-nitro-, dimethyl ester (WEGSCHEIDER and KLEMENC), 1911, A., i, 542.

**Methylnormeconineanilide** and its acetyl derivative (MEYER and TURNAU), 1909, A., i, 710.

**Methylnoroxyberberine** and bromo-, and their acetyl derivatives (FALTIS), 1910, A., i, 699.

***N*-Methylnorpapaverinium** derivatives (DECKER, DUNANT, and GIRARD), 1908, A., i, 205.

**Methylocitric acid**. See Methoxytricarballic acid.

**$\eta$ -Methyl- $\Delta^{8\beta}$ -octadiene** and its dihydrobromide and tetrabromide (KEIF), 1908, A., i, 847.

**$\delta$ -Methyl- $\Delta^{7\epsilon}$ -octadiene** (BJELOUSS), 1912, A., i, 229.

**$\alpha$ -Methyloctaldehyde** and its semicarbazone (SOMMELET), 1907, A., i, 108.

**Methyloctanal** and its copper derivative (COUTURIER), 1910, A., i, 299.

**$\delta$ -Methyloctane** (CLARKE), 1912, A., i, 405.

**1-Methyldicyclo-[2,2,2]-octane** and 7-amino-, and its pierate (SEMMLER and BARTELT), 1908, A., i, 38.

**$\delta$ -Methyloctan- $\delta$ -ol** (CLARKE), 1912, A., i, 405.

**$\delta$ -Methyloctan- $\epsilon$ -ol** (BJELOUSS), 1912, A., i, 229.



- 1-Methyldicyclo-[2,2,2]octan-7-ol** and its acetate and chloride (SEMMLER and BARTELT), 1908, A., i, 38.
- δ-Methyl-Δ<sup>8</sup>-octene** (BJELOUSS), 1912, A., i, 230.
- ζ-Methyl-ε-octen-α-inoic acid** and its methyl ester (MOUREU and DELANGE), 1903, A., i, 313.
- δ-Methyl-Δ<sup>7</sup>-octen-ε-ol** and its salts (BJELOUSS), 1912, A., i, 229.
- ζ-Methyl-α-octinoic acid.** See Noninoic acid.
- α-Methyl-octoic acid, α-amino-,** and its nitrile, hydrochloride of (V. GULEWITSCH and WASMUS), 1906, A., i, 410.
- α-Methyl-*n*-octylcarbinol** and its hydrogen phthalate and brucine and strychnine salts of the latter (PICKARD and KENYON), 1911, T., 60, 70.
- Methyl octyl diketone (acetylnonoyl)** and its derivatives (LOCQUIN), 1905, A., i, 20.
- Methylolacetophenone** and its acetyl derivative (VAN MARLE and TOLLENS), 1903, A., i, 493.
- m*-Methylolbenzoic acid.** See *m*-Toluic acid, ω-hydroxy-.
- Methylolcarbamide** (EINHORN and HAMBURGER), 1908, A., i, 142.
- p*-Methylolcinnamic acid** (EINHORN and GÖTTLER), 1910, A., i, 113.
- Methylol compounds of acid amides** (EINHORN, BISCHOFF, LADISCH, MAUERMAYER, SCHUPP, SPRÖNGERTS, and SZELINSKI), 1906, A., i, 245; (EINHORN), 1906, A., i, 486; (EINHORN, FEIBELMANN, GÖTTLER, HAMBURGER, and SPRÖNGERTS), 1908, A., i, 608.
- Methyloldimethylacetaldehyde**, action of hydrogen cyanide on (GLASER), 1904, A., i, 284.
- Methylol-γ-dimethylcrotonic acid** and its lactone and dibromide (SILBERSTEIN), 1904, A., i, 288.
- Methyloleanol** and its acetyl derivative (POWER and TUTIN), 1908, T., 899; P., 117.
- Methylolivil** (KOERNER and VANZETTI), 1912, A., i, 352.
- Methylisoolivil** (KOERNER and VANZETTI), 1912, A., i, 353.
- Methylolmethylenebisacetylacetone** (KNOEVENAGEL), 1903, A., i, 638.
- α-Methylolphenyldialkylcarbinols**, formation of (LUDWIG), 1907, A., i, 702.
- Methyl-orange** (*helianthin*), isomerism of (HANTZSCH and HILSCHER), 1908, A., i, 469.
- Methyl orange** (*helianthin*), colour changes of, in acid solution (TIZARD), 1910, T., 2477; P., 225.
- colour of aqueous solutions of, and the change which acids produce in it (VAILLANT), 1904, A., i, 119.
- reactions between acids and (VELEY), 1907, A., ii, 76; (V. SZYSZKOWSKI), 1907, A., ii, 238.
- behaviour of nitrous acid towards (LUNGE), 1903, A., ii, 575.
- Methylloxalacetic acid** (ERLENMEYER and ARSENZ), 1905, A., i, 241.
- α-Methyl-α-oxalosuccinic acid**, ethyl ester (BLAISE and GAULT), 1908, A., i, 714.
- 5-Methylisooxazole** and its cadmichloride, mercurichloride, and platonic chloride compound (CLAISEN), 1909, A., i, 185.
- synthesis of (CLAISEN), 1911, A., i, 491.
- and its **3:4-dicarboxylic acid** and its salts and ethyl ester (SCHMIDT and WIDMANN), 1908, A., i, 457.
- 3-Methylisooxazole-4-azobenzene-4-*p*-azosalicylic acid**, 5-hydroxy- (BÜLOW and HAAS), 1911, A., i, 340.
- 3-Methylisooxazole-4-carboxylic acid**, 5-hydroxy-, ethyl ester (PALAZZO), 1906, A., i, 701.
- 3-Methylisooxazoline** (MAIRE), 1908, A., i, 290.
- Methylloxazolone**, oximino-, pyridine, piperidine, and metallic salts of (HANTZSCH and KEMMERICH), 1909, A., i, 336.
- Methylisooxazolone**, isonitroso- (BOUVEAULT and WAHL), 1905, A., i, 257, 612; (HANTZSCH), 1905, A., i, 408.
- γ-Methylisooxazolone** and its *C*-methyl derivative (OLIVERI-MANDALÀ and COPPOLA), 1911, A., i, 492.
- δ-Methyloximino-α<sup>7</sup>-diketoheptioic acid** and its ethyl ester and sodium salt (DIELS and PLAUT), 1905, A., i, 509.
- 1-Methyloxindole-3-aldehyde** and its derivatives (FRIEDLÄNDER and KIELBASINSKI), 1911, A., i, 1022.
- N-Methylisopapaverine** and its picrate (DECKER and KLAUSER), 1904, A., i, 338; (DECKER and HOCK), 1904, A., i, 620.
- oxidation of (DECKER and PSCHORR), 1904, A., i, 927.
- Methylparabanic acid**, oxime of (SCHMIDT), 1912, A., i, 540.

- $\mu$ -Methylparabanic acid (*O*-methyloxalyl-isocarbamide) (BRUCE), 1904, A., i, 574.
- $\gamma$ -Methylparaconic- $\alpha$ -acetic acid and its ethyl ester (FICHTER and PROBST), 1910, A., i, 217.
- $\alpha$ -Methylparaconic acid and its zinc salt and ethyl ester (FICHTER and RUDIN), 1904, A., i, 472.
- $\alpha$ -Methylparaconic acid, bromo- (FITTIG and SCHEEN), 1904, A., i, 555.
- Methylparaconyltropine and its additive salts (JOWETT and HANN), 1906, T., 361; P., 61.
- N*-Methylpavine, and its salts (PYMAN and REYNOLDS), 1910, T., 1324; P., 180.
- $\eta$ -Methylpentadecan- $\alpha$ -one and its semicarbazone (GUERBET), 1910, A., i, 454.
- Methyl-*n*-pentadecylcarbinol and its salts (PICKARD and KENYON), 1911, P., 313.
- Methyl-*n*-pentadecyl ketone and its semicarbazone (PICKARD and KENYON), 1911, P., 313.
- $\delta$ -Methyl- $\Delta^{\alpha\gamma}$ -pentadiene (KOHN), 1907, A., i, 339; (KOHN and MORGENSTERN), 1907, A., i, 682, 684; (KOHN and SCHLEGL), 1907, A., i, 683; (KIJNER and KLAWIKORDOFF), 1911, A., i, 635.
- $\gamma$ -Methyl- $\Delta^{\beta\delta}$ -pentadiene (ABELMANN), 1910, A., i, 455.
- 4-Methylcyclopentadiene and its 2-propionic acid (DUDEN and FREYDAG), 1903, A., i, 420.
- $\beta$ -Methylpentane. See *iso*Hexane.
- $\gamma$ -Methylpentane,  $\alpha\beta\gamma\delta$ -tetrabromo-, and dihydrobromide (ABELMANN), 1910, A., i, 455.
- Methylcyclopentane, preparation of (NAMETKIN), 1912, A., i, 172.
- nitration of (NAMETKIN), 1912, A., i, 175.
- Methylpentanes,  $\beta$ - and  $\gamma$ -, and their nitro-derivatives (PONI and COSTACHESCU), 1905, A., i, 109.
- 1-Methylcyclopentane-2-carboxylic acid, 4-bromo-, ethyl ester (HOPE and PERKIN), 1911, T., 771.
- 5-bromo-, and its ethyl ester, and 1:5- and 4:5-dibromo- (HAWORTH and PERKIN), 1908, T., 584.
- 1-Methylcyclopentane-3-carboxylic acid, 3-amino-, and its copper salt (ZELINSKY and STADNIKOFF), 1906, A., i, 425.
- $\gamma$ -Methylpentane- $\beta\delta$ -diol and its diacetate (ABELMANN), 1909, A., i, 547.
- $\gamma$ -Methyl- $\beta\delta$ -pentanediureide (DE HAAN), 1908, A., i, 578.
- Methylcyclopentanetetrone, attempts to prepare (DIELS and BÖCKING), 1909, A., i, 395.
- $\gamma$ -Methylpentane- $\beta\gamma\delta$ -triol and its triacetyl derivative (ABELMANN), 1910, A., i, 454.
- 1-Methylcyclopentane-2:4:5-trione and its oxime, methyl ether, benzylidene and quinoxaline derivatives, and 3-glyoxylic acid and its ethyl ester (DIELS, SIELISCH, and MÜLLER), 1906, A., i, 438.
- furfurylidene derivative, and 3-oximinio-, and its oxime and dimethylaniline derivative, and dichloro- (DIELS and BÖCKING), 1909, A., i, 395.
- 1-Methylcyclopentan-2-ol-5-carboxylic acid (HAWORTH and PERKIN), 1908, T., 584.
- 1-Methylcyclopentan-4-ol-2-carboxylic acid and its ethyl ester (HOPE and PERKIN), 1911, T., 770.
- $\beta$ -Methylpentan- $\beta$ -ol- $\gamma$ -one (GAUTHIER), 1911, A., i, 513.
- $\beta$ -Methylpentan- $\delta$ -ol- $\beta$ -one (*diacetone alcohol*), preparation of (HOFFMAN), 1911, A., i, 415.
- aminolactones from (KOHN), 1908, A., i, 819; (KOHN and BUM), 1910, A., i, 136.
- cyanohydrin (KOHN), 1909, A., i, 599.
- oxime of, and its reduction (KOHN and LINDAUER), 1903, A., i, 73.
- $\gamma$ -Methylpentan- $\beta$ -ol- $\delta$ -one. See  $\gamma$ -Keto- $\alpha\beta$ -dimethylbutyl alcohol.
- $\gamma$ -Methylpentan- $\gamma$ -ol- $\delta$ -one (GAUTHIER), 1911, A., i, 513.
- and its derivatives (DIELS and JOHLIN), 1911, A., i, 254.
- $\alpha$ -Methylpentan- $\delta$ -one. See Hexan- $\beta$ -one.
- 1-Methylcyclopentan-2-one and its oxime and semicarbazone (WALLACH and COLLMANN), 1904, A., i, 752.
- preparation of (BEST and THORPE), 1909, T., 703; P., 93.
- 1-Methylcyclopentan-2-one, 2-cyano-, and its semicarbazone (BEST and THORPE), 1909, T., 711; P., 93.
- 1-Methylcyclopentan-3-one and its oximes (WALLACH and KEMPE), 1904, A., i, 755.
- catalytic reduction of (ZELINSKY), 1911, A., i, 988.
- Methylcyclopentan-4-one-3-acetic acid and its methyl ester, and their semicarbazones (BLANC), 1908, A., i, 21.

- Methylcyclopentanonecarboxylic acid** and its isomeride, and their salts, ethyl ester and oximes (SVOBODA), 1903, A., i, 174; (MICHAEL), 1903, A., i, 348.
- 1-Methylcyclopentan-2-one-1-carboxylic acid**, ethyl ester (PRJEWALSKY), 1903, A., i, 728.  
methyl ester, and its semicarbazone (BOUVEAULT and LOCQUIN), 1908, A., i, 172.
- 1-Methylcyclopentan-2-one-3-carboxylic acid**, esters, and their semicarbazones (BOUVEAULT and LOCQUIN), 1908, A., i, 172.
- 1-Methylcyclopentan-2-one-3-carboxylic acid**, 1-cyano-, ethyl ester (BEST and THORPE), 1909, T., 702; P., 93.
- 1-Methylcyclopentan-2-one-4-carboxylic acid**, and its ethyl ester and derivatives (HOPE and PERKIN), 1911, T., 774.
- 1-Methylcyclopentan-2-one-5-carboxylic acid** and its ethyl ester, oxime, and semicarbazone, synthesis of (HAWORTH and PERKIN), 1908, T., 579.
- 1-Methylcyclopentan-3-one-2-carboxylic acid**, 2-cyano-, ethyl ester (NOYES and COX), 1904, A., i, 10.
- 1-Methylcyclopentan-3-one-4-carboxylic acid**, esters, rotation of (HALLER and DESFONTAINES), 1905, A., ii, 429.
- 1-Methylcyclopentan-4-one-2-carboxylic acid** and its ethyl ester and derivatives (HOPE and PERKIN), 1911, T., 769.
- Methylcyclopentan-4-one-3-carboxylic acid**, methyl ester, and the reaction of the sodium derivative with ethyl bromoacetate (BLANC), 1908, A., i, 20.
- 1-Methylcyclopentan-2-one-1:5-dicarboxylic acid**, ethyl ester, and its hydrolysis (HAWORTH and PERKIN), 1908, T., 579.
- 1-Methylcyclopentan-2-one-3-dicarboxylic acid**, ethyl ester (HOPE and PERKIN), 1911, T., 774.
- 1-Methylcyclopentan-2-one-3:5-dicarboxylic acid**, ethyl ester (HAWORTH and PERKIN), 1908, T., 582.
- 1-Methylcyclopentan-4-one-2:3- or -2:5-dicarboxylic acid**, ethyl ester, and its semicarbazone (HOPE and PERKIN), 1911, T., 768.
- 1-Methylcyclopentan-3-one-4-oxalic acid**, ethyl ester (RUHEMANN), 1912, T., 1733.
- 1-Methylcyclopentan-3-one-1:5:5-tricarboxylic acid**, ethyl ester (SVOBODA), 1903, A., i, 174; (MICHAEL), 1903, A., i, 348.
- $\beta$ -Methyl- $\alpha$ -pentanonoic acid**. See Methyl-ethylpyruvic acid.
- 1-Methyl- $\Delta^1$ -cyclopentene-2-carboxylic acid** (WALLACH), 1912, A., i, 878.
- 1-Methyl- $\Delta^1$ - and - $\Delta^5$ -cyclopentene-2-carboxylic acid**, formation and separation of, and oxidation of, and their ethyl esters (HAWORTH and PERKIN), 1908, T., 585.  
ethyl esters, action of magnesium methyl iodide on (HAWORTH and PERKIN), 1908, T., 593.
- Methylpentenedicarboxylic acid** and its ethyl ester (VORLÄNDER, WEISSHEIMER, and SPONNAGEL), 1906, A., i, 366.
- $\delta$ -Methyl- $\Delta\gamma$ -pentene- $\Delta\alpha$ -inoic acid** (MOUREU and DELANGE), 1903, A., i, 313.
- 1-Methyl- $\Delta^3$ -4-cyclopentene methyl ketone** and its semicarbazone (HARDING, HAWORTH, and PERKIN), 1908, T., 1969.
- $\alpha$ -Methyl- $\Delta\beta$ -pentenoic acid** and its calcium salt (FICHTER and RUDIN), 1904, A., i, 473.
- $\gamma$ -Methyl- $\Delta\gamma$ -pentenoic acid** ( $\gamma$ -methylallylacetic acid) and its ethyl ester (JONES and TATTERSALL), T., 1693; P., 218.
- $\beta$ -Methyl- $\Delta\alpha$  and - $\Delta\beta$ -pentenoic acids** (FICHTER and GISTGER), 1910, A., i, 88.
- $\gamma$ -Methyl- $\Delta\beta$ -penten- $\delta$ -ol** and its chloride and acetate (ABELMANN), 1910, A., i, 454.
- $\gamma$ -Methyl- $\Delta\gamma$ -penten- $\beta$ -ol** and its acetate (ABELMANN), 1908, A., i, 2.
- $\delta$ -Methyl- $\Delta\gamma$ -penten- $\beta$ -ol** (COURTOT), 1906, A., i, 789.
- $\alpha$ -Methylpentenolactone** and its salts and phenylhydrazones (FITTIG and KRAUS), 1907, A., i, 473.
- Methylcyclopentenolone** and its salts and derivatives (MEYERFELD), 1912, A., i, 628.
- ac-Methylpentenylbenzene** and its dibromide (KLAGES and SAUTTER), 1904, A., i, 302.
- $\gamma$ -Methyl- $\alpha$ -pentinoic acid**. See Hexinoic acid.
- Methylpentosan**, estimation of (MAYER), 1907, A., ii, 586.  
estimation of, in presence of pentosans (ELLETT and TOLLENS), 1905, A., ii, 210.
- Methylpentosans and pentosans**, in seeds (BORGHESEANI), 1910, A., ii, 532.  
estimation of, in cereals and in wood fungi (ISHIDA and TOLLENS), 1911, A., ii, 645.



- Methylpentoses**, detection of, in presence of pentoses (ROSENTHALER), 1909, A., ii, 353.  
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- $\alpha$ - and  $\beta$ -**Methyl pentosides**, action of nucleosidase on (LEVENE, JACOBS, and MEDIGRECEANU), 1912, A., ii, 577.
- 2-Methylperimidine**, salts of (SACHS), 1909, A., i, 427.  
 hydroxy- (SACHS), 1909, A., i, 429.  
 9-hydroxy-, hydrochloride (KEHRMANN and ENGELKE), 1909, A., i, 151.
- Methylphosphoribide** (WILLSTÄTTER and STOLL), 1911, A., i, 143.
- Methylphosphoribides** (WILLSTÄTTER and STOLL), 1912, A., i, 286.
- p*-**Methylphenacyldialuric acid** and its sodium salt and acetyl and benzoyl derivatives (KÜHLING and SCHNEIDER), 1909, A., i, 424.
- p*-**Methylphenacylisoehydantoic acid** (KÜHLING and SCHNEIDER), 1909, A., i, 424.
- p*-**Methylphenacyltartronic acid** and its lead salt (KÜHLING and SCHNEIDER), 1909, A., i, 424.
- $\psi$ -2- and -3-**Methylphenanthraphenazoxines** (KEHRMANN and WINKELMANN), 1907, A., i, 346.
- 1-Methylphenanthrene and phenanthraquinone** (PSCHORR and HOFMANN), 1906, A., i, 849.
- 2-Methylphenanthrene**, and 4-hydroxy-, and its acetyl derivative (BEHREND and KLINCKHARD), 1911, A., i, 294.
- 3-Methylphenanthrene** and its dibromide (PSCHORR and QUADE), 1906, A., i, 849.
- 6-Methylphenanthrene-9-carboxylic acid** (PSCHORR and QUADE), 1906, A., i, 849.
- 8-Methylphenanthrene-9-carboxylic acid** (PSCHORR and HOFMANN), 1906, A., i, 849.
- 4-Methyl- $\psi$ -phenanthrol-3-one** and its derivatives (KAUFMANN, RADOSEVIC, HÜSSY, and DAMJE), 1909, A., i, 608.
- N*-**Methylphenazothionium** platinichloride and dinitro-, hydrate of (BARNETT and SMILES), 1910, T., 189.
- S*-**Methylphenazothionium** hydroxide, hydrochloride and platinichloride (BARNETT and SMILES), 1910, T., 986.
- Methyl-*p*-phenetidine**, 3:5-dinitro- (REVERDIN and LIEBL), 1912, A., i, 440.
- 2-Methylisopheno-1:3:4-diazosulphonine** (EKBOM), 1903, A., i, 411.
- N*-**Methylphenomorpholine** (LEES and SHEDDEN), 1903, T., 757; P., 132.
- N*-**Methylphenomorpholone**, electrolytic reduction of (LEES and SHEDDEN), 1903, T., 756; P., 132.
- 12-Methyl-1:2-phenonaphthacridol** (ULLMANN and LA TORRE), 1904, A., i, 930.
- 2-Methyl-1:2-phenonaphthacarbazole-*N*-sulphonic acid**, sodium salt (BUCHERER and SEYDE), 1908, A., i, 455.
- $\mu$ -**Methylphenopentoxazole**. See 3-Methyl-2:4-benzoxazine.
- 3-Methylphenothioxin** (AKTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION), 1911, A., i, 903.
- 5-Methylphenoxazine**, 3-nitro- (ULLMANN and SANÉ), 1912, A., i, 104.
- $\alpha$ -4-**Methylphenoxypyronic acid**,  $\alpha$ -2-cyano- (AUWERS), 1912, A., i, 1011.
- 1-Methylphenylene-4:5-dithiol**, 2-amino-. See Toluene, 2-amino-4:5-dithiol-.
- Methyl- $\beta$ -phenylthiol- $\gamma$ -benzylidenepropyl ketone** (RUHEMANN), 1905, T., 465.
- Methylphloroglucinol**, bromo-, and its carboxylic acid (SCHREIER and WENZEL), 1904, A., i, 518.  
*tri*thio-, and its derivatives (POLLAK and TUCAKOVIĆ), 1910, A., i, 734.
- Methylphloroglucinolaldehyde**. See 3-Methylbenzaldehyde, 2:4:6-*tri*hydroxy-.
- Methylphloroglucinoldiazobenzene** (BOEHM), 1904, A., i, 404.
- Methylphloroglucinylo-*n* butanone** and its azo-compound (BOEHM), 1904, A., i, 407.
- Methylphosphinic acid**, hydroxy-, and its salts (PAGE), 1912, T., 428; P., 39.
- 3-Methylphthalic acid** (JÜRGENS), 1907, A., i, 1036.
- 4-Methylphthalic acid**, preparation of, isoquinoline derivatives from (FINDEKLEE), 1906, A., i, 42.
- 1-Methylphthalide** (SIMONIS, MARBEN, and MERMOD), 1906, A., i, 32.
- 1-Methylphthalide**, 4-bromo- (FRIES and HEMPELMANN), 1909, A., i, 810.  
*tetrabromo*- (GABRIEL), 1907, A., i, 216.
- 1-Methylphthalide-1-carboxylic acid**, 4-bromo- (FRIES and HEMPELMANN), 1909, A., i, 810.
- Methylphthalimidine hydroper-bromide** and -iodide (WERNER), 1903, A., i, 235.

- 4-Methylphthaliminoglycine** and its salts and ester (FINDEKLEE), 1906, A., i, 42.
- Methyl  $\zeta$ -phthaliminohexyl ketone** (GABRIEL), 1909, A., i, 891.
- Methyl  $\gamma$ -phthaliminopropyl sulphide** (SCHNEIDER), 1910, A., i, 659.
- Methylphthalonamic acid** (FINDEKLEE), 1906, A., i, 43.
- Methylphthalonic acid** (FINDEKLEE), 1906, A., i, 43.
- 7-Methylphthalonimide** (FINDEKLEE), 1906, A., i, 43.
- 10-Methylphthaloperine, 10-hydroxy-**, and its hydriodide and picrate (SACHS), 1909, A., i, 429.
- 3-Methylphthalylglycine** and its methyl and ethyl esters (JÜRGENS), 1907, A., i, 1036.
- Methylpicolide** (SCHOLTZ), 1912, A., i, 386.
- 4-Methylpicolyl-*p*-tolylalkine.** See 4:4'-Dimethyldihydrostilbazole,  $\beta$ -hydroxy-.
- Methylpicaconitine** and its hydrobromide and hydrochloride (SCHULZE), 1906, A., i, 599.
- Methylpicramic acid** (BORSCHÉ and HEYDE), 1907, A., i, 31.
- Methylpinoneoxime** and its benzoyl derivative and methyl ether (TILDEN and STOKES), 1905, T., 837; P., 183.
- 1-Methylpiperidine** (HAASE and WOLF-FENSTEIN), 1904, A., i, 856.
- 2-Methylpiperidine ( $\alpha$ -pipercoline)** and water, mutual solubility of (FLASCHNER and MACÉWEN), 1908, T., 1000; P., 119.  
preparation of aliphatic halogen compounds from (v. BRAUN and SOBECKI), 1911, A., i, 413.
- 3-Methylpiperidine ( $\beta$ -pipercoline)**, synthesis of (FRANKE and KOHN), 1903, A., i, 153.  
hydrogen tartrates, *r*-, *d*-, and *l*- (LADENBURG and BOBERTAG), 1903, A., i, 575.
- Methylpiperidinedicarboxylic acid** and its hydrochloride, aurichloride and copper salt (SCHMIDT), 1909, A., i, 173.
- Methylpiperidiniumacetic acid**, chloro-, and its ethyl ester and platinum-chloride (v. BRAUN), 1908, A., i, 608.
- Methylpiperidobetaine**, and its aurichloride (KLAGES and MARGOLINSKY), 1904, A., i, 146.
- 1-Methyl-6-piperidone, 3-hydroxy-**, and  $\beta$ -naphthalenesulphonamino-compound (LEUCHS and SPLETTSTÖSSER), 1907, A., i, 177.
- 4-Methyl-2-piperidone-6-carboxylic acid** and its salts (DIECKMANN), 1905, A., i, 418.
- 2-Methylpiperidyl-6-acetic acid**, and its derivatives (LÖFFLER and REMMLER), 1910, A., i, 634.
- Methylpiperonyl ether** (MAMELI), 1904, A., i, 668, 743.
- 1-Methyl-3-piperyl methyl ketone.** See 3-Acetyl-1-methylpiperidine.
- N*-Methylproline.** See Hygric acid.
- Methylpropane.** See Butane.
- Methylcyclopropane,  $\omega$ -iodo-**, behaviour of, towards alkali hydroxides (DEMJANOFF), 1903, A., i, 807.
- 1-Methylcyclopropane-2:3-dicarboxylic acid, 2:3-dibromo-**, methyl and ethyl esters (JONES), 1905, T., 1064; P., 216.
- 1-Methylcyclopropane-2:3-di- and -2:3:3-tri-carboxylic acids** (PREISWECK), 1903, A., i, 459.
- 1-Methylcyclopropane-2:3-di- and -2:2:3:3-tetra-carboxylic acids** and their ethyl esters (KÖTZ and STALMANN), 1903, A., i, 741.
- 3-Methylcyclopropane-1:1:2:2-tetracarboxylic acid, trichloro-**, ethyl ester (KÖTZ), 1907, A., i, 707.
- 1-Methyl- $\Delta^2$ -cyclopropene-2:3-dicarboxylic acid** (PERKIN), 1903, T., 846.  
methyl and ethyl esters, bromination of (JONES), 1905, T., 1062; P., 216.
- 1-Methyl-2-isopropenolcyclopentane, 5-hydroxy-** (HAWORTH and PERKIN), 1908, T., 594.
- 1-Methyl-3-isopropenolcyclopentane, 1-hydroxy-** (HAWORTH and PERKIN), 1908, T., 593.
- 1-Methyl-2-isopropenol- $\Delta^5$ -cyclopentene** (HAWORTH and PERKIN), 1908, T., 597.
- 1-Methyl-2-iso-propenol- and -propenyl- $\Delta^1$ -cyclopentenenes** (HAWORTH and PERKIN), 1908, T., 593.
- 1-Methyl-3-iso-propenol- and -propenylcyclopentenenes** (HAWORTH and PERKIN), 1908, T., 592.
- p*- $\alpha$ -Methyl-propenyl- and -propyl-anisoles** (KLAGES), 1904, A., i, 1004.
- $\beta$ -Methyl- $\Delta\alpha$ -propenylbenzene** (KLAGES and HAEN), 1904, A., i, 497.
- o*-Methylisopropenylbenzene** (KAY and PERKIN), 1905, T., 1071.
- m*-Methylisopropenylbenzene** (PERKIN and TATTERSALL), 1905, T., 1090.
- p*-Methylisopropenylbenzene** and its dibromo-derivative and nitroso-chloride (PERKIN and PICKLES), 1905, T., 653.

- Methylpropenylcarbinol** and its acetate and phenylcarbamate (COURTOT), 1906, A., i, 926.
- 2-Methyl-5-isopropenylhexahydroisophthalic acid** (LAPWORTH), 1906, T., 1825; P., 285.
- 1-Methyl-4-isopropenylcyclohexan-2-one**, 6-cyano-. See Dihydrocarvone, cyano-.
- 9-Methyl-3-isopropenyltricyclononane-5-ol-7-one** and its acetate (RABE), 1903, A., i, 268; (RABE and WEILLINGER), 1903, A., i, 268, 269.
- 1-Methyl-2-isopropenylcyclopentane** (KIJNER), 1912, A., i, 758.
- 2-Methyl-5-isopropenyl- $\Delta^2$ -tetrahydroisophthalic acid** and its reduction (LAPWORTH), 1906, T., 1823; P., 285.
- $\alpha$ -Methylpropionic acid**. See Butyric acid.
- 3-Methylpropiophenone**, 6-hydroxy- (AUWERS), 1904, A., i, 66.
- Methylpropylacetoacetamide** (MEYER), 1907, A., i, 298.
- $\beta$ -Methyl- $\beta$ -propylacrylic acid** (GARDNER and HAWORTH), 1909, T., 1963.
- $\beta$ -Methyl- $\beta$ -propylacrylonitrile** (GARDNER and HAWORTH), 1909, T., 1963.
- $\alpha$ -Methyl- $\delta$ -isopropyladipic acid** (*octanedicarboxylic acid*), and its esters, chloride and amides (MARTINE), 1903, A., i, 315.
- and its ethyl esters (BOUVEAULT and LOQUIN), 1908, A., i, 173.
- See also Dihydrocamphoric acid.
- $\alpha$ -Methyl- $\delta$ -isopropyladipic acid**,  $\alpha$ -hydroxy- (SCHIMMEL & Co.), 1910, A., i, 758.
- $\alpha\delta$ -*d*-hydroxy-, synthesis of (WALLACH and MEISTER), 1908, A., i, 812.
- 1-Methyl-4-isopropyl-3-allylbenzene** (KUNCKELL), 1903, A., i, 617.
- 1-Methyl-4-isopropyl-3-allylcyclohexan-3-ol** (RYSCHENKO), 1910, A., i, 181.
- oxidation and halogen derivatives of (SAYTZEFF), 1911, A., i, 474.
- 1-Methyl-5-propyl-3-allyl- $\Delta^1$ -cyclohexen-3-ol** (MATSHUREVITSCH), 1911, A., i, 962.
- 1-Methyl-5-isopropyl-3-allyl- $\Delta^1$ -cyclohexen-3-ol** (MATSHUREVITSCH), 1911, A., i, 962.
- Methylpropylaniline**, 2:4-dinitro-, synthesis of (MULDER), 1906, A., i, 491.
- Methylisopropylaniline**, preparation of (THOMAS and JONES), 1906, T., 287.
- N-Methyl-*n*- and -*iso*-propylanilines**, *p*-bromo-, and their additive salts (HILL), 1907, A., i, 692.
- N-Methyl-*p*-isopropylaniline-N-carboxylamide** (SACHS and WEIGERT), 1907, A., i, 1046.
- 3-Methyl-6-isopropylazobenzene**, 4:2':4'-trinitro- (BORSCHKE), 1908, A., i, 68.
- p*-Methylisopropylbenzene**, dichloro- (AUWERS and HESSENLAND), 1907, A., i, 401.
- Methylisopropylbenzylamine**, 3-hydroxy-, N-acyl derivatives of (EINHORN, BISCHKOPFF, SZELINSKI, SCHUPP, and MAUERMAYER), 1906, A., i, 246.
- 2-Methyl-5-isopropylbenzylidenerhodanic acid**, 4-hydroxy- (BARGELLINI), 1906, A., i, 536.
- 1-Methyl-4-isopropyl-3- $\alpha\beta$ -dibromopropylbenzene** (KUNCKELL and DETTMAR), 1912, A., i, 432.
- $\beta$ -Methyl- $\alpha$ -propyl- $\Delta\beta$ -butenoic acid**,  $\gamma$ -cyano-, and its dibromide (GUARESCHI), 1907, A., i, 1004.
- $\beta$ -Methylpropyl isobutyl ether**,  $\alpha\beta$ -dichloro- (HENRY), 1907, A., i, 670.
- Methylisopropylcarbazole** (LUX), 1910, A., i, 745.
- 4-Methyl-1-isopropylcarbazole** and its picrate (BORSCHKE, WITTE, and BOTHE), 1908, A., i, 367.
- 3-Methyl-6-isopropyl- $\Delta^N$ -carbazolenine** and its additive salts (PLANCHER and CARRASCO), 1904, A., i, 777.
- Methyl-*n*-propylcarbinol** (HENRY), 1907, A., i, 887.
- hydrogen succinate of (PICKARD and KENYON), 1911, T., 59.
- Methyl-*n*-propylcarbinol**, *ac*i-dinitro-, and its potassium salt (DUDEN and PONNDORF), 1905, A., i, 558.
- d*-Methyl-*n*-propylcarbinol** and its hydrogen phthalate and brucine and strychnine salts of the latter (PICKARD and KENYON), 1911, T., 60, 65.
- Methylisopropylcarbinol**, rotation of (PICKARD and KENYON), 1911, P., 324.
- d*- and *l*-Methylisopropylcarbinols** and their derivatives (PICKARD and KENYON), 1912, T., 630.
- $\alpha$ -Methylpropyl  $\alpha$ -cyanopropyl ether**,  $\alpha$ -hydroxy- (ULTEE), 1909, A., i, 705.
- Methylpropyldiacetonalkamine**. See Methyl- $\beta$ -methylpropylaminoisobutylcarbinol.
- $\alpha'$ -Methyl- $\alpha$ -isopropyldiglycollic acid**, ethyl ester (JUNGLEISCH and GODCHOT), 1908, A., i, 128.
- 10-Methyl-9-isopropyl-dihydroacridine** (FREUND and BODE), 1909, A., i, 515.



- 2-Methyl-3-isopropyl-1,4-dihydroquin-oxaline** and its additive salts and dinitroso- and dibenzoyl derivatives (EKELEY and WELLS), 1905, A., i, 613.
- Methylisopropylidiphenamic acids** (LUX), 1910, A., i, 239.
- Methylisopropylidiphenic acid**, diamide, nitrile, nitrile chloride, and nitrile-amide (LUX), 1910, A., i, 239.
- mononitrile of (WERNER and PIGUET), 1905, A., i, 68.
- Methylisopropylidiphenimide** (LUX), 1910, A., i, 239.
- 3'-Methyl-4-isopropylidiphenyl, 2:2'-di-amino-**, and its derivatives (LUX), 1910, A., i, 745.
- Methylisopropylidiphenyl-2-carboxylic acid** and its silver salt (LUX), 1908, A., i, 874.
- $\beta$ -Methyl- $\alpha$ -propylene  $\alpha$ -chlorohydrin** (FOURNEAU and TIFFENEAU), 1907, A., i, 818.
- 3-Methyl-4-isopropylenepyrazolone** (WOLFF), 1905, A., i, 840.
- $\alpha$ -Methylpropyl ethyl ketone,  $\beta$ -hydroxy-** (BLAISE and HERMAN), 1910, A., i, 535.
- Methyl- $n$ -propylglutaconimide** and its ammonium derivative (GUARESCHI), 1905, A., i, 822.
- $\alpha$ -Methyl- $\gamma$ - $n$ -propylglutaric acid,  $\alpha\gamma$ -di-hydroxy-**, derivatives of (FITTING and V. PANAYEFF), 1907, A., i, 473.
- $\alpha$ -Methyl- $\beta$ -isopropylglutaric acid** (NOYES and DOUGHTY), 1905, A., i, 321.
- $\beta$ -Methyl- $\beta$ -propylglycidic acid**, ethyl ester (CLAISEN), 1905, A., i, 288.
- 1-Methyl-4-isopropylcyclohexadien-3-one**, 6-chloro-2:5:6-trinitro- (ROBERTSON and BRISCOE), 1912, T., 1970.
- 2-Methyl-5-isopropylhexahydrocarb-azole** and its nitroso- and carbamyl derivatives (BORSCHKE, WITTE, and BOTHE), 1908, A., i, 367.
- 4-Methyl-7-isopropylhexamethylene-imine** and its additive salts (WALLACH and JÄGER), 1903, A., i, 104.
- 1-Methyl-3-propylcyclohexane** (MAILHE and MURAT), 1911, A., i, 126.
- 1-Methyl-4-isopropylcyclohexane** (*hexa-hydrocymene*: *p-menthane*), synthesis of (SMIRNOFF), 1910, A., i, 104.
- and its 8-bromo-derivative (PERKIN and PICKLES), 1905, T., 639; P., 130.
- 1-Methyl-4-isopropylcyclohexane, 1:3-di-amino-**. See Tetrahydroumbellulyl-amine, amino-.
- $\beta$ -Methyl- $\gamma$ -propylhexane- $\beta\gamma$ -diol** (PARRY), 1911, T., 1171; P., 141.
- 1-Methyl-2-propylcyclohexan-2-ol**, and its acetyl derivative (MURAT), 1909, A., i, 147.
- 1-Methyl-3-propylcyclohexan-3-ol**, derivatives of (MAILHE and MURAT), 1911, A., i, 126.
- 1-Methyl-5-isopropylcyclohexan-2-ol** (WALLACH and VIRCK), 1911, A., i, 313.
- 1-Methyl-2-isopropylcyclohexan-5-one** and its oxime and benzylidene derivative (KÖTZ and AUGER), 1911, A., i, 310.
- 1-Methyl-5-isopropylcyclohexan-2-one** (WALLACH and VIRCK), 1911, A., i, 313.
- 1-Methyl-4-isopropylcyclohexan-3-one-4-carboxylic acid**, ethyl ester, and its semicarbazone (KÖTZ and HESSE), 1906, A., i, 88.
- 3-Methyl-1-isopropylcyclohexan-2- and -6-one-1-carboxylic acids**, ethyl esters, and their semicarbazones (KÖTZ and MICHELS), 1906, A., i, 666.
- 1-Methyl-3-isopropyl-2-cyclohexanone-1:3-dicarboxylic acid**, ethyl ester (KÖTZ and MICHELS), 1907, A., i, 58.
- 1-Methyl-3-propylcyclohexene** and its nitrosochloride (MAILHE and MURAT), 1911, A., i, 126.
- 1-Methyl-4-isopropyl- $\Delta^2$  (or  $\Delta^3$ )-cyclo-hexen-3-ol**, acetate of (MANNICH and HÄNCU), 1908, A., i, 276.
- 1-Methyl-5-propyl- $\Delta^1$ -cyclohexen-3-one** (MATSCHEREVITSCH), 1911, A., i, 962.
- 1-Methyl-3- and -4-propylenecyclohexanes** and their nitrosochlorides and nitropiperidides (WALLACH and RENTSCHLER), 1908, A., i, 405.
- 1-Methyl-2-isopropylidenecyclopentane** (KIJNER), 1912, A., i, 758.
- 3-Methyl-2-isopropylindole** and its picate (PLANCHER and BONAVIA), 1903, A., i, 434.
- Methyl propyl ketone** and its semicarbazone (BOUVEAULT and BONGERT), 1903, A., i, 142.
- formation of, from  $\alpha$ -ethylbutyric acid in the organism (BLUM and KOPPEL), 1912, A., ii, 188.
- condensation of cuminaldehyde with (WARREN and LEROS), 1910, A., i, 269.
- phosphorus acid derivatives of (MARIE), 1903, A., i, 379.
- semicarbazone, oximino-, and its acetyl derivative (RUPE and KESSLER), 1910, A., i, 94.
- Methyl propyl ketone,  $\gamma$ -amino-**, benzoyl derivative (GABRIEL), 1909, A., i, 191.
- tetrabromo-, and lactone derived from (PASTUREAU), 1909, A., i, 207.

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*isonitroso*-, semicarbazone of (PONZIO), 1904, A., i, 723.  
*α-isonitroso*-, methyl ether of (DIELS and PLAUT), 1905, A., i, 509.
- Methyl isopropyl ketone**, reduction of (BEAUME), 1903, A., i, 727.  
 action of potassium hydroxide on a mixture of, with phenylacetylene (BORK), 1905, A., i, 774.  
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*p*-tolylhydrazine (KONSCHIEGG), 1905, A., i, 924.  
 constitution of the indoline base from (KONSCHIEGG), 1906, A., i, 452.  
 chlorohydroxy-derivative, and its acetyl and phenylosazone compounds and *dichloro*- (SMIRNOFF), 1905, A., i, 172.
- Methyl propyl ketone ammonia** (THOMAE and LEHR), 1907, A., i, 113.
- Methyl-*n*- and -*iso*-propylmaleic acids**, salts and anhydrides of (KÜSTER and HAAS), 1906, A., i, 693.
- α*-Methyl-*β*-propylmaleic anhydride** and its barium salt (KÜSTER and HAAS), 1904, A., i, 647.
- Methylisopropylmaleimide** and its isomeride (KÜSTER and HAAS), 1904, A., i, 648.
- Methylpropylmaleimides**, *n*- and *iso*- (KÜSTER and HAAS), 1906, A., i, 694.
- Methylpropylmalonic acid**, esters and amide of (MEYER), 1907, A., i, 179.
- Methylpropylmalonic acid**, *dichloro*-, ethyl ester (KÖTZ and ZÖRNIG), 1907, A., i, 112.
- Methylpropylisooxazole** (BOUVEAULT and BONGERT), 1903, A., i, 142.
- 1-Methyl-2-isopropylcyclopentane** (KIJNER), 1912, A., i, 758.
- 1-Methyl-3-isopropylcyclopentane**. See Dihydropulegene.
- Methylisopropylcyclopentanes**, synthesis of terpins, terpineols, and terpenes from (HAWORTH and PERKIN), 1908, T., 573; P., 64.
- 1-Methyl-3-isopropylcyclopentan-1-ol** (WALLACH and OLDENBERG), 1911, A., i, 311.
- i*-1-Methyl-3-isopropylcyclopentan-1-ol** (WALLACH and CHALLENGER), 1912, A., i, 263.
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- 1-Methyl-3-isopropylcyclopentan-2-one** (*dihydrometaphosphorone*; *dihydrolepulegenone*) (SEMMLER and McKENZIE), 1906, A., i, 374.  
 and its semicarbazone and **1-carboxylic acid**, ethyl ester, synthesis of (KÖTZ and SCHÜLER), 1907, A., i, 59.  
 and its constitution, and its oxime and semicarbazone (WALLACH, COLLMANN, and THEDE), 1903, A., i, 568.  
 and its oxime, semicarbazone, and **3-carboxylic acid** (BOUVEAULT and LOCQUIN), 1908, A., i, 173.
- 1-Methyl-3-isopropylcyclopentan-2-one-1-carboxylic acid**, ethyl ester (BOUVEAULT and LOCQUIN), 1908, A., i, 173.
- 1-Methyl-3-isopropyl- $\Delta^1$ -cyclopentene** ("*anhydrometaphoryl alcohol*") (SEMMLER), 1904, A., i, 261.
- 1-Methyl-3-isopropyl- $\Delta^5$ -cyclopentene** and its derivatives (WALLACH), 1911, A., i, 310.
- 1-Methyl-3-isopropylcyclopentylmethylamine** and its derivatives (WALLACH and OLDENBERG), 1911, A., i, 311.
- Methylpropylphenol** (HENDERSON and BOYD), 1910, T., 1669.
- 3-Methyl-6-isopropylphenyl  $\alpha$ -bromopropyl ketone** (KUNCKELL), 1912, A., i, 433.
- $\alpha$ -3-Methyl-6-isopropylphenyl- $\Delta^{\alpha}$ -butylene**, and its dibromide and  $\alpha$ -chloro- $\beta$ -bromo- (KUNCKELL), 1912, A., i, 433.
- $\delta$ -Methyl- $\alpha$ -isopropylpimelic acid** and its ethyl ester and silver salt (KÖTZ), 1908, A., i, 24.
- Methylpropylcyclopropane** (ZELINSKY and PRSCHEVALSKY), 1908, A., i, 845.
- $\beta$ -Methyl- $\alpha$ -propyl- $\Delta^{\alpha}$ -propenylbenzene** and its dibromide (KLAGES and HAEN), 1904, A., i, 497.
- 3-Methyl-5-propylpyrazole** and its benzoyl derivative and carboxylamide (BOUVEAULT and BONGERT), 1903, A., i, 142, 144.
- 3-Methyl-5-propylpyrazole-4-carboxylic acid** and its methyl ester (BOUVEAULT and BONGERT), 1903, A., i, 144.
- 4-Methyl-3-propylpyrazolone** (BOUVEAULT and BONGERT), 1903, A., i, 145.
- 2-Methyl-5-propylpyridine-3-carboxylic acid**, *6*-hydroxy-, and its ethyl ester (ERRERA and LABATE), 1904, A., i, 190.
- 2-Methyl-5-isopropylpyrrole** and its mercury compound (TSCHUGAEFF and SCHLOESINGER), 1905, A., i, 231.

- 1-Methyl-2-propylpyrrolidine, and its derivatives (LÖFFLER and FREYTAG), 1910, A., i, 632.
- 2-Methyl-3-*n*-propyl-4-quinazolone, 6-, and 7-amino-, acetyl derivatives (BOGERT, AMEND, and CHAMBERS), 1910, A., i, 195.
- $\alpha$ -Methyl- $\beta$ -propylsuccinic acid and its salts and imide (TSCHUGAEFF and SCHLOESINGER), 1905, A., i, 231.
- Methyl-*n*- and -*iso*-propylsuccinic acids (KÜSTER and HAAS), 1906, A., i, 694.
- 4-Methyl-1-*isopropyl*tetrahydrocarbazole and its picrate (PLANCHER and CARRASCO), 1904, A., i, 777.
- 2-Methyl-5-*isopropyl*- $\Delta^{1,6}$ -tetrahydrocarbazole (BORSCHÉ, WITTE, and BOTHE), 1908, A., i, 366.
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- 3-Methyl-6-*isopropyl*tritanolactone, 2-hydroxy- (v. LIEBIG), 1908, A., i, 541.
- 4-Methyl-1- and -3-propyluracil (BÜCK-ANDORFF), 1912, A., i, 55.
- Methylprotocatechualdehyde-*m*-carbonate (PAULY and ALEXANDER), 1909, A., i, 590.
- Methylprunol (POWER and MOORE), 1910, T., 1106.
- 3-Methylpulegene, constitution of (RUPE, SCHOBEL, and ABEGB), 1912, A., i, 573.
- Methyl*isopulegene* (EBERT), 1909, A., i, 246.
- 3-Methylpulegol (RUPE, SCHOBEL, and ABEGB), 1912, A., i, 573.
- 3-Methyl*isopulegol* and its acetyl derivative (RUPE and EBERT), 1908, A., i, 663.
- Methyl*isopulegyl* alcohol and chloride (EBERT), 1909, A., i, 246.
- 8-Methylpurine and its additive salts (ISAY), 1906, A., i, 218.
- 4-Methylpyran-2:6-dicarboxylic acid and its methyl ester and dibromide (BLAISE and GAULT), 1907, A., i, 333.
- Methylpyrazinophenazine, hydroxy- (HINSBERG and SCHWANTES), 1904, A., i, 198.
- $\alpha$ -,  $\beta$ -, and  $\gamma$ -3-Methylpyrazo*isocoumarazone*, and 4-bromo-, and 4-iodo- (MICHAELIS, KRUG, LEO, and ZIESEL), 1910, A., i, 513.
- 3-Methylpyrazo*isocoumarazone*-4-carboxylic acid (MICHAELIS and LEO), 1910, A., i, 515.
- Methylpyrazole (WALLACH and STEINDORFF), 1904, A., i, 106.
- 1-Methylpyrazole, 4-chloro- (MAZZARA and BORGO), 1906, A., i, 702.
- 3-Methylpyrazole, 5-chloro-, 4:5-di-chloro-, 5-chloro-4-bromo-, and its perbromide and 5-chloro-4-iodo- (MICHAELIS and LACHWITZ), 1910, A., i, 641.
- 4-amino-5-hydroxy-, and 4-nitro-5-hydroxy-, salts and derivatives of (BÜLOW, HAAS, and SCHMACHTENBERG), 1910, A., i, 903.
- 3-Methylpyrazole-1-acetic acid, 5-chloro-, and its salts and derivatives, and 5-chloro-4-bromo- (MICHAELIS and SCHMIDT), 1910, A., i, 640.
- 3-Methylpyrazole-4-azobenzene-4'-*p*-azosalicylic acid, 5-hydroxy- (BÜLOW and HAAS), 1911, A., i, 339.
- 1-Methylpyrazole-3-carboxylic acid (JOWETT and POTTER), 1903, T., 469; P., 56.
- 3-Methylpyrazole-1-carboxylic acid, 5-chloro-, ethyl ester (MICHAELIS and SCHMIDT), 1910, A., i, 640.
- 4-Methylpyrazole-5-carboxylic acid (KLAGES and RÖNNEBURG), 1903, A., i, 529.
- 4-Methylpyrazole-3:5-dicarboxylic acid and its glycol ethyl ester (WOLFF, BOCK, LORENTZ, and TRAPPE), 1903, A., i, 209.
- and its ethyl ester (FEIST), 1906, A., i, 332.
- 3-Methylpyrazole-1-propionic acid, 5-chloro-, and its salts and derivatives, and 5-chloro-4-bromo- (MICHAELIS and SCHMIDT), 1910, A., i, 640.
- 3-Methylpyrazole-4-*isopropyl*enecarboxylic acid, 5-hydroxy-lactone of. See 3:4-Dimethyl-1:2-pyrazo-6:7-pyrone.
- 5-Methyl-3-pyrazolidone, 1-nitroso-, and its salts (MUCKERMANN), 1909, A., i, 839; 1911, A., i, 814.
- 3-Methylpyrazoline and its phenylcarbamide and picrate (MAIRE), 1908, A., i, 290.
- 5-Methylpyrazoline, preparation of, from crotonaldazine (HLADÍK), 1903, A., i, 740.
- 5-Methylpyrazoline-1-carboxylamide (NEF), 1905, A., i, 4.
- 3-Methyl-5-pyrazolone and its 4-alkyl derivatives (LOCQUIN), 1904, A., i, 694.
- and 4-*isonitroso*- (WOLFF), 1904, A., i, 722.
- condensation of, with acetylacetone (WOLFF), 1905, A., i, 840.



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 4-bromo-4-nitro- (WISLICHENUS and GÖZ), 1912, A., i, 53.  
 4-isonitroso- (BETTI), 1904, A., i, 533; (WOLFF), 1904, A., i, 722; (BÜLOW and SCHAUB), 1908, A., i, 687.
- 3-Methylpyrazolone-4-isobutylencarboxylic acid** and its lactone (WOLFF and SCHREINER), 1908, A., i, 291.
- 3-Methylpyrazolone-1-carbamidine** (SCHESTAKOFF and KAZAKOFF), 1912, A., i, 1032.
- 3-Methylpyrazolone-4-isopropylencarboxylic acids**, isomeric (WOLFF), 1905, A., i, 839; (WOLFF and SCHREINER), 1908, A., i, 292.
- 3-Methylpyrazoquinazoline**, 7-chloro-, 4:7-dichloro-, and 7-hydroxy-, and its silver salt and chloro-derivative (MICHAELIS, KRUG, LEO, and ZIESEL), 1910, A., i, 513.
- Methylpyrazylmethylpyrazolone** (STOLLÉ), 1905, A., i, 839.
- 5-Methylpyridazin-6-one-3-carboxylic acid** (BLAISE and GAULT), 1911, A., i, 520.
- 2-Methylpyridine**. See  $\alpha$ -Picoline.
- 4-Methylpyridine**. See  $\gamma$ -Picoline.
- Methylpyridinecarboxylic acid**, isolation of, from soils, and its relation to soil fertility (SCHREINER and SHOREY), 1908, A., ii, 889.
- 2-Methylpyridine-6-carboxylic acid** and its hydriodide and chloride (TURNAU), 1908, A., i, 912.  
 hydriodide and methiodide of (TURNAU), 1905, A., i, 547.
- Methylpyridine-4-carboxylic acids**, 3- and 5-, 2:6-dihydroxy-. See Methylcitrazinic acids.
- 2-Methylpyridine-3:5-dicarboxylic acid**, 6-hydroxy-, and its salts (SIMONSEN), 1908, T., 1030; P., 136.  
 ethyl-ammonium and ethyl-silver ester salts (SIMONSEN), 1908, T., 1028; P., 136.
- Methylpyridinium** ferriehloride (SCHOLTZ), 1910, A., i, 96.  
 hydroxide, behaviour of, in the animal organism (KOHLEAUSCH), 1909, A., ii, 918; 1912, A., ii, 74.
- Methyl-2-pyridone**, 3-bromo-, and 3:5-dibromo- (DECKER, KAUFMANN, SASSU, and WISLOKI), 1911, A., i, 1024.
- 1-Methyl-4-pyridone**, hydroxy-, and its salts, and bromo-, chloro-, and nitro-derivatives (MAQUENNE and PHILIPPE), 1905, A., i, 80.
- Methylpyridonium picrate** (TOTANI and HOSHIAI), 1910, A., i, 696.
- 2-Methylpyrimidine** and 6-amino-, 6-chloro-, and 6-hydroxy-, and their salts (GABRIEL), 1904, A., i, 1060.
- 3-Methylpyrimidine**, 4:5-diamino-2:6-dihydroxy- (MERCK), 1906, A., i, 536.
- 4-Methylpyrimidine**, 2-cyanoamino-6-hydroxy- (MERCK), 1905, A., i, 670.
- 5-Methylpyrimidine**, amino-, chloro-, chloroamino-, and iodoamino-derivatives (GERNGROSS), 1905, A., i, 942.  
 2:4-dihydroxy-. See Thymine.
- Methylpyrimidines**, 4- and 5-, 2-cyanoamino-6-hydroxy-, and their salts (POHL), 1908, A., i, 576.
- 4-Methylpyrimidine-5-acetic acid**, 2:6-diamino- (JOHNSON and HEYL), 1908, A., i, 59.
- 4-Methyl-2-pyrimidone**, 5:6-diamino-, and its monoformyl compound (JOHNS), 1909, A., i, 192.
- 1-Methyl-6-pyrimidone-2-thiolacetic acid**, 5-hydroxy- (JOHNSON and JONES), 1909, A., i, 423.
- 3-Methylpyrone** (WILLSTÄTTER and PUMMERER), 1905, A., i, 458.
- 3-Methyl- $\alpha$ -pyrone**, 6-chloro-, and 6-hydroxy- (THOLE and THORPE), 1911, T., 2223.
- 4-Methyl- $\alpha$ -pyrone**, 6-chloro-, and 6-hydroxy-, and its salts (BLAND and THORPE), 1912, T., 865.
- 2-Methylpyrone-6-acetic acid** (COLLIE and HILBITCH), 1907, T., 789; P., 92.
- 6-Methyl-2-pyrene-3:5-dicarboxylic acid**, ethyl ester, and its derivatives and reactions (SIMONSEN), 1908, T., 1022; P., 136.  
 conversion of, into methyltrimesic acid (SIMONSEN), 1910, T., 1910; P., 200.
- 2-Methyl-6-pyrophthalone** and its sodium and additive salts (SCHOLZE), 1905, A., i, 825; (EIBNER), 1905, A., i, 928.  
 and its sodium salt (SCHOLZE), 1906, A., i, 33.
- 1-Methylpyrrole**, conversion of, into 2-methylpyrrole (PICTET and STEINMANN), 1904, A., i, 771.
- 1-Methylpyrrole**, 2-chloro-3:4:5-tribromo- (MAZZARA and BORGO), 1905, A., i, 817.  
 2:5-dichloro-3:4-dibromo- (MAZZARA and BORGO), 1905, A., i, 659.  
 2:3:5-trichloro-4-bromo- (MAZZARA), 1904, A., i, 771.  
 2:3:5-tri- and 2:3:4:5-tetra-chloro- (MAZZARA and BORGO), 1904, A., i, 614.

- 2-Methylpyrrole**, formation of, from 2-methylpyrrolidine (TESTONI and MASCARELLI), 1904, A., i, 188.  
 condensation product of (PLANCHER and CIUSA), 1907, A., i, 80.
- Methylpyrroles**, pyrogenic transformation of, into pyridine derivatives (PICTET), 1905, A., i, 545.
- Methylpyrroleazobenzene** and its salts (PLANCHER and SONCINI), 1903, A., i, 450.
- 1-Methylpyrrole-2-carboxylic acid** and its methylamide, bromo-derivatives of (KHOTINSKY and PICTET), 1904, A., i, 772.
- 2-Methylpyrrole-3-carboxylic acid**, ethyl ester (BENARY), 1911, A., i, 319.
- 1-Methylpyrrolidine** (TAFEL and WASSMUTH), 1907, A., i, 720.  
 and its methiodide (MASCARELLI and TESTONI), 1904, A., i, 340.  
 from nicotine (PICTET), 1905, A., i, 543.  
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- 2-Methylpyrrolidine**, synthesis of (v. BRAUN), 1910, A., i, 819.
- 1-Methylpyrrolidine-2-carboxylic acid**. See Hygric acid.
- 1-Methylpyrrolidine-2:2-dicarboxylic acid** and its methylamides, and their esters (WILLSTÄTTER and ETTLINGER), 1903, A., i, 363.
- 1-Methylpyrrolidone**, platinichloride (GANSSEER), 1909, A., i, 703.
- 4-Methyl-5-pyrrolidone**, 2-imino- $\omega$ -4-dicyano- (THOLE and THORPE), 1911, T., 1687.
- 1-Methylpyrroline** and its salts from tobacco leaves (PICTET and COURT), 1907, A., i, 954.
- 2-Methylpyrroline** (MASCARELLI and TESTONI), 1904, A., i, 340.
- C-Methylpyrroline** and its salts, from black pepper (PICTET and COURT), 1907, A., i, 954.
- Methylpyruvic acid** and its phenylhydrazones (FITTIG and DANNENBERG), 1904, A., i, 555; (ERLENMEYER and ARBENZ), 1905, A., i, 241.
- Methylquinaldines**, *o*- and *p*-. See 2:8- and 2:6-Dimethylquinolines.
- 2-Methylquinazoline** (GABRIEL), 1903, A., i, 446.
- 2-Methylquinazoline**, 4-hydroxy-, and dibromo-, and pentabromo- (BOGERT and HEIDELBERGER), 1912, A., i, 215.
- 8-Methylquinazoline**, 2:4-dichloro- and 2:4-dihydroxy- (JÜRGENS), 1907, A., i, 1037.
- Methylquinazolines**, 6- and 8-, 4-chloro- (GABRIEL and COLMAN), 1905, A., i, 944.
- 6-Methylquinazolines**, 7-amino- (BOGERT and KROFF), 1909, A., i, 843.
- 3-Methyl-4-quinazoline-2-carboxymethylamide** (BOGERT and GORTNER), 1910, A., i, 284.
- 2-Methylquinazolinesulphonic acid**, bromo-4-hydroxy-, and its barium salt (BOGERT and HEIDELBERGER), 1912, A., i, 215.
- 2-Methyl-4-quinazolone** (ANSCHÜTZ and SCHMIDT), 1903, A., i, 56; (ANSCHÜTZ, SCHMIDT, and GREIFFENBERG), 1903, A., i, 57.  
 See also 2-Methylquinazoline, 4-hydroxy-.
- 2-Methyl-4-quinazolone**, 3-amino-, and its formyl, acetyl, and other derivatives, and hydrochloride and picrate (BOGERT and GORTNER), 1909, A., i, 679.  
 6- and 7-amino-, and their derivatives (BOGERT, AMEND, and CHAMBERS), 1910, A., i, 894.  
 7-amino-, and its nitro-, and acetyl derivatives (BOGERT and KLABER), 1908, A., i, 467.  
 3-hydroxy- (ANSCHÜTZ, SCHMIDT, and GREIFFENBERG), 1903, A., i, 58.  
 7-nitro-, and its derivatives from 4-nitroacetylthranil (BOGERT and KLABER), 1908, A., i, 466.
- 2-Methyl-4-quinazolone-5-carboxylic acid** and its methyl ester (BOGERT and JOUARD), 1909, A., i, 306.
- 2-Methyl-4-quinazolone-6-carboxylic acid**, 7-nitro- (BOGERT and KROFF), 1909, A., i, 843.
- 2-Methyl-4-quinazolonyl-3-acetic acid** and 3-*o*-benzoic acid, 7-nitro-, ethyl esters, amides, and nitriles (BOGERT and KLABER), 1908, A., i, 468.
- 2-Methyl-4-quinazolonyl-3-(2:5-dimethyl-3:4-dicarbethoxypyrrole)**, 7-nitro- (BOGERT and KLABER), 1908, A., i, 468.
- 2-Methyl-4-quinazolonyl-3:7'-(2'-methyl-4'-quinazolone)**, 7-amino-, acetyl derivative (BOGERT, AMEND, and CHAMBERS), 1910, A., i, 895.
- Methylquindolanol** (FICHTER and BOEHNINGER), 1907, A., i, 93; (FICHTER and PROBST), 1907, A., i, 977.
- Methylquinic acid**, methyl ester (KNÖPPER), 1907, A., i, 423.
- Methylquinnitrole**, bromo-derivatives (ZINCKE and BUFF), 1905, A., i, 880.
- o-Methylquinnitrole**, tetrabromo-, and its nitrate (ZINCKE and KLOSTERMANN), 1907, A., i, 322.

- o*-Methylquinnitrole, *tetrachloro*-, nitrate, and its derivatives (ZINCKE and PFAFFENDORF), 1912, A., i, 964.
- Methylquinol.** See Toluquinol.
- Methyl- $\psi$ -quinol**, chloro-derivatives and their acetates (ZINCKE, SCHNEIDER, and EMMERICH), 1903, A., i, 758.
- Methyl- $\psi$ -quinol**, bromo-, chlorobromo-, and their acetyl derivatives (ZINCKE and BUFF), 1905, A., i, 880.
- 2:3:5-trichloro-6-hydroxy-, and the action of chlorine on, and its acetate (ZINCKE, SCHNEIDER, and EMMERICH), 1903, A., i, 758.
- Methylquinolanol**, dinitro-, and its derivatives (KAUFMANN and STRÜBIN), 1911, A., i, 321.
- Methylquinoline**, *o*-*d*-hydroxy- (MAN-ANSE), 1903, A., i, 29.
- dinitro-, oxide (KAUFMANN and STRÜBIN), 1911, A., i, 323.
- 2-Methylquinoline** (*quinaldine*) and its additive salts (HELLER and SOUR-LIS), 1903, A., i, 913.
- mechanism of the synthesis of (JONES and EVANS), 1911, T., 334; P., 43.
- condensation of, with aldehydes (LOEW), 1903, A., i, 577.
- reaction of, with benzaldehyde in sunlight (BENRATH), 1906, A., i, 535.
- action of, on mono- and di-bromo-succinic esters (DUKEUIL), 1904, A., i, 189; 1905, A., i, 14.
- condensation of, with cinnamaldehyde and with protocatechualdehyde (RENZ and LOEW), 1904, A., i, 191.
- ethiodide, condensation of, with nitrosodimethylaniline (KAUFMANN and VALLETTE), 1912, A., i, 655.
- hydrochloride and mercurichloride (HELLER and TISCHNER), 1910, A., i, 596.
- nitro-derivatives, condensation of, with aldehydes (SCHMIDT), 1906, A., i, 39.
- 2-Methylquinoline**, 3-amino-, and its additive salts and acetyl derivative, and 4-hydroxy- (STARK), 1907, A., i, 973.
- 3-amino- and 3-amino-4-hydroxy-, fluorescence of (STARK), 1907, A., i, 974.
- 7-amino-, and its additive salts and acyl derivatives (ALBER), 1905, A., i, 235.
- 6-bromo-, and 5-(or 7-), 6- and 8-chloro- (BARTOW and McCOLLUM), 1904, A., i, 686.
- 8-chloro-2-thiol- (FISCHER, BERCKHEMER, and ULBRICHT), 1903, A., i, 53.
- 2-Methylquinoline**, 3-cyano-, and its 4-carboxylic acid and their salts (v. WALTHER), 1903, A., i, 652.
- 5-nitro-, and its methiodide and picrate (DECKER and REMFERY), 1905, A., i, 829.
- 6-nitro- (COHN and SPRINGER), 1903, A., i, 493.
- 3-Methylquinoline**, preparation and reactivity of (WISLIGENUS and ELVERT), 1909, A., i, 420.
- 3-Methylquinoline**, 2-chloro- (ORNSTEIN), 1907, A., i, 444.
- 4-Methylquinoline** (*lepidine*), condensation of, with aldehydes (LOEW), 1903, A., i, 577.
- methiodide, condensation of, with nitrosodimethylaniline (KAUFMANN and VALLETTE), 1912, A., i, 655.
- 4-Methylquinoline**, 3-chloro- (ELLINGER and FLAMAND), 1907, A., i, 153.
- 5-Methylquinoline** and its salts (v. JAKUBOWSKI), 1911, A., i, 82.
- 6-Methylquinoline**, bromo-, chloro-, iodo-, and iodono-derivatives and their platinichlorides (EDINGER and EKELEY), 1903, A., i, 58.
- 8-iodine-derivatives, and their additive salts (WILLGERODT and FRISCHMUTH), 1905, A., i, 547.
- 6-Methylquinoline**, 5-bromo-8-nitro-, and its platinichloride (KUNCKELL), 1910, A., i, 507.
- 3-cyano- (FINGER and BREITWIESER), 1909, A., i, 512.
- 7-hydroxy-, and 7-cyano- (EDINGER and BÜHLER), 1910, A., i, 64.
- 8-Methylquinoline**, halogen and nitro-derivatives (HOWITZ and NÜTHER), 1906, A., i, 885.
- 8-Methylquinoline**, 2-amino-, 2-chloro-, 2-chloroamino-, and 2-chloronitro-, and salts of the chloro-compound (FISCHER and DREYERHOFF), 1903, A., i, 52.
- 3:*o*-*d*i-bromo- and 3-bromo-*o*-hydroxy-, and its phenyl ether (HOWITZ and SCHWENK), 1905, A., i, 471.
- 1-Methylisoquinoline**, and its salts (PIETER and GAMS), 1910, A., i, 774.
- 3-Methylisoquinoline**, 1:4:6-(or 1:4:7-) trihydroxy- (KUSEL), 1904, A., i, 619.
- 7-Methylisoquinoline** and 1-chloro-, and their additive salts (FINDEKLEE), 1906, A., i, 43.
- 2- and 4-Methylquinolines**, methoperchlorates and their derivatives (KÖNIG), 1912, A., i, 654.
- 6- and 8-Methylquinolines**, me nitrates of (DECKER, GADOMSKA, and GIRARD), 1905, A., i, 469. and



- 4-Methylquinoline-2-acrylic acid** (KÖNIGS and MENGEL), 1904, A., i, 528; (SPALLINO and CUCCHIARONI), 1912, A., i, 582.
- 3-Methylquinolinecarboxylic acid** (*3-methylcinchoninic acid*), methyl ester, amide and chloride of (MEYER), 1906, A., i, 358.
- 2-hydroxy-**, methyl ester (MEYER), 1906, A., i, 109; 1907, A., i, 342.
- 4-Methylquinoline-2-carboxylic acid** and its salts (KÖNIGS and MENGEL), 1904, A., i, 528.
- 2-Methylquinoline-4-carboxylic acid**, methyl ester and amide (MEYER), 1907, A., i, 343.
- 3-Methylquinoline-4-carboxylic acid**, and 2-chloro- and 2-hydroxy-, and their salts, esters, amide, anilide, and chloride (ORNSTEIN), 1907, A., i, 443.
- 5-Methylquinoline-8-carboxylic acid**, and its salts (v. JAKUBOWSKI), 1911, A., i, 81.
- Methylquinolineoxalic acid.** See Quinolylypyruvic acid.
- 1-Methylquinolinium** 1-methosulphate and its dichromate and picrate, 8-nitro- (DECKER, GADOMSKA, SANDBERG, and STAVROLOPOULOS), 1905, A., i, 374.
- 2-Methylquinolinium** alkyl sulphates, dyes from (FARBENFABRIKEN VORM. F. BAYER & Co.), 1905, A., i, 548.
- 2-Methylisoquinolinium** picrate (DECKER and KAUFMANN), 1911, A., i, 1023.
- 1-Methyl-2-quinolone**, 6-amino-, and its acetyl derivative (DECKER and ENGLER), 1903, A., i, 518.
- 5-, 7-, and 8-amino-** and their derivatives (DECKER and ENGLER), 1909, A., i, 512.
- 6:8-dibromo-**, 3-bromo-8-nitro-, and 6:8-dinitro- (DECKER, GADOMSKA, SANDBERG, and STAVROLOPOULOS), 1905, A., i, 374.
- bromo-** and chloro-6- and -8-hydroxy-derivatives (HOWITZ and WITTE), 1905, A., i, 470.
- 5-bromo-6-hydroxy-** (HOWITZ and BÄRLOCHER), 1905, A., i, 375.
- 6- and 7-chloro-** (FISCHER, BERCKHEMER, and ULBRICHT), 1903, A., i, 53.
- 5-chloro-6-hydroxy-** (HOWITZ and BÄRLOCHER), 1903, A., i, 279.
- 4-cyano-** (KAUFMANN and ALBERTINI), 1909, A., i, 958.
- 6-hydroxy-** (HOWITZ and BÄRLOCHER), 1903, A., i, 279; (DECKER and ENGLER), 1903, A., i, 518.
- 1-Methyl-2-quinoline**, 8-hydroxy- (DECKER and ENGLER), 1903, A., i, 518.
- 8-mono- and -di-nitro-** (DECKER and STAVROLOPOULOS), 1903, A., i, 719.
- 1-Methyl-2-quinolone-4-carboxylic acid** and its methyl ester and chloride (MEYER), 1907, A., i, 344.
- sodium and silver salts** (KAUFMANN and ALBERTINI), 1909, A., i, 959.
- mercuric Methylquinonedii-imonium bromide** (PICCARD), 1911, A., i, 569.
- 8-Methylquinophthaline** and its *N*-alkyl derivatives (GAEBELÉ), 1904, A., i, 89.
- 8-Methylquinophthalone** and its bromo-derivatives (GAEBELÉ), 1904, A., i, 89.
- Methylquinotoxine**, isonitroso- (RÖHDE and ANTONAZ), 1907, A., i, 634.
- 3-Methylquinoxaline**, 2-propionyl derivative (SACHS, HEROLD, and ALSLEBEN), 1907, A., i, 629.
- 6-(or 7)-Methylquinoxaline-2-benzoic acid**, 3-hydroxy-, and its lactone and imino-compound (MANUELLI and MASELLI), 1906, A., i, 308.
- Methyl-red**, and its salts and derivatives (HOWARD and POPE), 1911, T., 1333; P., 206.
- colour changes of**, in acid solution (TIZARD), 1910, T., 2477; P., 225.
- measurement of hydrogen in concentration by means of** (PALITZSCH), 1912, A., ii, 87.
- Methylresoflavin** and its formula and ether ester and ether acid (HERZIG and TSCHERNE), 1907, A., i, 421.
- Methylresorcinol.** See Toluene, dihydroxy-.
- Methylrhamsoside**, methylation of (PURDIE and YEUNG), 1906, T., 1201; P., 201.
- Methyl-*d*-ribonic acid**,  $\alpha$ -hydroxy-, and its calcium salt and phenylhydrazone (LEWIS), 1909, A., i, 768.
- Methylsabinaketol** (*sabinear hydrate*) (WALLACH), 1907, A., i, 1060.
- 3-Methylsalicylaldehyde**, 5-nitro-, acetyl derivatives (AUWERS and BONDY), 1904, A., i, 1052, 1053.
- 4-Methylsalicylaldehyde**, 3-nitro- (CLAYTON), 1910, T., 1405.
- 5-nitro-**, and its oxime and phenyl hydrazone (CLAYTON), 1910, T., 1406.
- N*-Methylsalicylaldoxime** and its hydrochloride (BECKMANN and NETSCHER), 1909, A., i, 391.
- Methylsalicylamide.** See *o*-Methoxybenzamide.
- N*-Methylsalicylamide**, preparation of, and its benzoyl derivatives (McCONNAN and MARPLES), 1907, T., 194; P., 18.

- N*-Methylsalicylamide, hydroxy- (EINHORN), 1905, A., i, 344, 346.
- 3-Methylsalicylic acid.** See *m*-Toluic acid, 2-hydroxy-.
- 4-Methylsalicylic acid.** See *p*-Toluic acid, 3-hydroxy-.
- 5-Methylsalicylic acid.** See *m*-Toluic acid, 4-hydroxy-.
- 3-Methylsalicyl-phosphorous chloride and -phosphoric chloride dibromide** (ANSCHÜTZ, SCHROEDER, WEBER, and ANSPACH), 1906, A., i, 506.
- 4-Methylsalicyl-phosphorous chloride and -phosphoric chloride dibromide** (ANSCHÜTZ and SCHROEDER), 1906, A., i, 506.
- 5-Methylsalicyl-phosphorous chloride and -phosphoric chloride dibromide** (ANSCHÜTZ and SCHROEDER), 1906, A., i, 507.
- Methylsantolate** and its acetate (HARRIES, HAARMANN, and STÄHLER), 1904, A., i, 231.
- Methylscopolaminium salts** (HOFFMANN, LA ROCHE & Co.), 1912, A., i, 897.
- Methylscopolaminiumsulphuric acid** (HOFFMANN, LA ROCHE & Co.), 1912, A., i, 897.
- Methylscopoline** and its aurichloride (SCHMIDT), 1906, A., i, 104.
- 5-Methylselenolacridol** and its salts (EDINGER and RITSEMA), 1903, A., i, 720.
- 5-Methylselenol-3-phenyl-1-methylpyrazole.** See *iso-ω*-Selenopyrine.
- $\alpha$ -Methylisoserine.** See *iso*Butyric acid,  $\beta$ -amino- $\alpha$ -hydroxy-.
- Methylsinapic acid** (MAUTHNER), 1908, A., i, 729.
- $\alpha$ -Methylsorbic acid** (*heptinoic acid*), and its salts (JAWORSKY), 1903, A., i, 729.
- synthesis of (JAWORSKY and REFORMATSKY), 1903, A., i, 4.
- Methylsparteine** (MOUREU and VALEUR), 1905, A., i, 716.
- $\alpha$ -Methylsparteine**, formation of, from isosparteine (VALEUR), 1908, A., i, 736.
- new method of ring formation of, by the action of iodine (VALEUR), 1908, A., i, 1006.
- isomerisation of (MOUREU and VALEUR), 1908, A., i, 44.
- and isosparteine, reciprocal transformation of (VALEUR), 1909, A., i, 119.
- $\alpha$ -Methylsparteine, diiodo**, action of acids on (VALEUR), 1909, A., i, 119.
- Methylisoparteine**, and its picrate and methiodide (MOUREU and VALEUR), 1911, A., i, 319, 562.
- Methylsparteines,  $\alpha$ - and  $\beta$ -**, and their additive salts (MOUREU and VALEUR), 1908, A., i, 44.
- constitution of (MOUREU and VALEUR), 1908, A., i, 206.
- Methylisoparteinium hydroxide** (VALEUR), 1909, A., i, 119.
- Methylstanniodoform** (PFEIFFER and HELLER), 1905, A., i, 123.
- Methylstannoxylic acid** and tin haloids (POPE and PEACHEY), 1903, A., i, 741.
- 6-Methyl- $\alpha$ -stilbazole**, 2'- and 4'-mono- and di-amino-, and their additive salts and diazotisation and 2'- and 4'-nitro-, and their additive salts (AHRENS and LUTHER), 1907, A., i, 965.
- m*-**Methyl-2-stilbazole** and its dihydro-derivative and their salts, and -2-stilbazoline (FREUND), 1906, A., i, 883.
- 6-Methyl-2-stilbazole**, 2'-hydroxy-, and its salts (BRAMSCH), 1909, A., i, 415.
- 4-Methyl-4-stilbazole** and its dihydro-derivative and their salts, and -4-stilbazoline (FREUND), 1906, A., i, 883.
- 4'-Methyl-4-stilbazole** and its additive salts and reduction products (DÜRING), 1905, A., i, 233.
- 4'-Methyl-4-stilbazoline** and its platini-chloride (DÜRING), 1905, A., i, 233.
- Methylstilbene**, synthesis of (TIFFENEAU), 1904, A., i, 872.
- $\alpha$ -Methylstilbene** (HELL), 1904, A., i, 242; (VORLÄNDER and V. LIEBIG), 1904, A., i, 426.
- 3-Methylstilbene**, 6-nitro-4-cyano-, and 4:6-dinitro- (BORSCHÉ), 1912, A., i, 180.
- 8-Methylstilbene**, 5-nitro- (PSCHORR and QUADE), 1906, A., i, 849.
- m*-**Methylstilbene- $\alpha$ -carboxylic acid** and its silver salt (LIECK), 1906, A., i, 49.
- 3-Methylstilbene-2-carboxylic acid** (MÜLLER), 1909, A., i, 159.
- 4'-Methylstilbene-2-carboxylic acid**,  $\alpha$ -cyano-, and its salts and lactone (GYR), 1907, A., i, 417.
- $\alpha$ -Methylstyrene ozonide** (HARRIES and V. RIEDENSTEIN), 1912, A., i, 674.
- $\alpha$ -Methylstyrene,  $\beta$ -bromo**, and the action of sodium and magnesium on (TIFFENEAU), 1903, A., i, 241.
- $\beta$ -chloro- (TIFFENEAU), 1907, A., i, 305.
- o*-**Methylstyrene** (EMDE), 1912, A., i, 802.
- p*-**Methylstyrene,  $\alpha$ -chloro**- (AUWERS and KEIL), 1903, A., i, 621.
- $\beta$ -bromo- and  $\beta$ -chloro- (AUWERS and KEIL), 1904, A., i, 27.

- p*-Methylstyrene,  $\beta$ -chloro- (AUWERS and HESSENLAND), 1907, A., i, 400.
- $\alpha$ -Methylstyrenesulphonic acid, salts (BISTRZYCKI and MAURON), 1907, A., i, 1039.
- o*-Methylstyryl methyl ketone (*o*-tolylideneacetone) (MEERWEIN), 1908, A., i, 90.
- m*-Methylstyryl methyl ketone, 6-hydroxy-, semicarbazone of, and its behaviour towards aniline (BORSCHKE and MERKWITZ), 1904, A., i, 947.
- p*-Methylstyryl methyl ketone (*p*-tolylideneacetone) and its azine, oxime, phenylhydrazone, semicarbazone and *m*-nitro- (GATTERMANN), 1906, A., i, 590.
- 2-*p*-Methylstyryl-6-methylpyridine, and its salts and dibromide (WERNER), 1903, A., i, 574.
- 2-*p*-Methylstyryl-6-methylquinoline and its hexahydro-derivative and their additive salts (GASDA), 1906, A., i, 42.
- p*-Methylstyryl nonyl ketone (SCHOLTZ and MEYER), 1910, A., i, 562.
- 2-*p*-Methylstyrylquinoline, 5- and 8-nitro-, and their additive salts (SCHMIDT), 1906, A., i, 39.
- 1-Methylsuberol,  $\Delta^1$ -Methylsuberenene and its nitrosate, nitrosochloride, and nitrolamine, and Methylsuberone and Methylsuberenone and their semicarbazones (WALLACH), 1906, A., i, 370.
- Methylsuccinamide, dihydroxy-, and its compounds with benzene and *p*-nitrophenol (EINHORN), 1905, A., i, 345.
- Methylsuccinic acid (*i*-pyrotartaric acid: *propanedicarboxylic acid*), preparation of (HIGSON and THORPE), 1906, T., 1462; P., 242.
- active, conversion of active  $\alpha$ -bromopropionic acid into (CAMERON and ROBINSON), 1909, A., i, 205.
- action of, on *p*-aminophenol and its ethers (GIUFFRIDA and CHIMIENTI), 1904, A., i, 1047.
- condensation of  $\beta$ -naphthaldehyde with (BEHREND and KLINCKHARD), 1911, A., i, 294.
- acid esters (BONE, SUBBOROUGH, and SPRANKLING), 1904, T., 542; P., 64.
- Methylsuccinic acid, bromo-, and its anhydride (ILSKY), 1905, A., i, 323.
- dibromo-, action of phenylhydrazine on (FICHTER, GUGGENHEIM, and BRASCH), 1908, A., i, 105.
- Methylsuccinic acid,  $\omega$ -cyano-, ethyl ester (HOPE), 1912, P., 193.
- $\alpha$ -hydroxy-, and its amide (LUTZ), 1903, A., i, 147.
- Methylsuccinic anhydride, rate of hydration of (RIVETT and SIDGWICK), 1910, T., 1677; P., 200.
- o*-Methylsulphaminebenzoic acid and its potassium salt (REMSEN and CLARK), 1903, A., i, 823.
- 2:2'-Methylsulphone-4:4'-azoxytoluene (ZINCKE and ROLLHAÜSER), 1912, A., i, 551.
- 2-Methylsulphonebenzoic acid, 4-amino-, acetyl derivative (ZINCKE and ROLLHAÜSER), 1912, A., i, 551.
- 3-Methylsulphone-1-phenyl-5-methylpyrazole (MICHAELIS and HAHN), 1905, A., i, 379.
- Methylsulphonepropionic acid (SCHNEIDER), 1910, A., i, 660.
- $\gamma$ -Methylsulphonepropylphenylthiocarbamide (SCHNEIDER), 1910, A., i, 660.
- $\gamma$ -Methylsulphonepropylthiocarbamide (SCHNEIDER), 1910, A., i, 660.
- 3-Methylsulphone-1-*o*- and -*p*-tolyl-5-methylpyrazoles (MICHAELIS and BEHRENS), 1905, A., i, 381.
- Methylsulphonyl chloride, trichloro-, action of sodium ethoxide on (BROWN and COWIE), 1908, A., i, 3.
- Methylsulphoxylic acid, amino-, sodium salt (CHEMISCHE FABRIK VON HEYDEN), 1910, A., i, 229.
- Methylsulphurous acid, amino-, sodium salt (CHEMISCHE FABRIK VON HEYDEN), 1910, A., i, 229.
- hydroxylamino- (BINZ and MARX), 1910, A., i, 728.
- Methyltanacetone and its semicarbazone (HALLER), 1905, A., i, 602.
- Methyl tannin. See Pentamethyl tannin.
- Methyltartaric acid, hydroxy-, and its brucine salts (VONGERTEN and MÜLLER), 1906, A., i, 143.
- Methyltartrondiamide and its acetyl derivative (BARDROFF), 1912, A., i, 752.
- $\beta$ -Methyltaurine, formation of (YOUNG and CROOKES), 1906, T., 71.
- and bromo-, and its potassium salt (GABRIEL and COLMAN), 1906, A., i, 889.
- 5-Methyl-1:2:3:4-tetrahydroacridine, 8-hydroxy- and its sulphate (BORSCHKE, SCHMIDT, TIEDTKE, and ROTTSEPER), 1910, A., i, 881.
- d*-2- and 3-Methyltetrahydroacridines, and their salts (BORSCHKE, SCHMIDT, TIEDTKE, and ROTTSEPER), 1910, A., i, 884.



- d*-2- and 3-Methyl-1:2:3:4-tetrahydro-acridine-5-carboxylic acid (BORSCHÉ, SCHMIDT, TIEDTKE, and ROTTSEPER), 1910, A., i, 884.
- Methyltetrahydrobenzene.** See Methylcyclohexene.
- $\alpha$ -Methyltetrahydroberberine** (FREUND and MAYER), 1905, A., i, 657.  
hydrochloride (FREUND and MAYER), 1907, A., i, 633.
- Methyltetrahydrocarbazole**, 4- or 2-, and its pierate (PLANCHER and CARRASCO), 1904, A., i, 777.
- Methyl- $\Delta^{1(6)}$ -tetrahydrocarbazoles**, 4- and 9-, and 10-nitro- of the 4-compound (BORSCHÉ, WITTE, and BOTHE), 1908, A., i, 366.
- 2-Methyl- $\Delta^{8:9}$ -tetrahydrocymene**, 2-chloro- (RUPE and EMMERICH), 1908, A., i, 433.
- 2-Methyltetrahydrofuran** (FRANKE and KOHN), 1907, A., i, 816.
- 2-Methyltetrahydrofuran**, trichloro- (HAMONET), 1906, A., i, 133.
- 4-Methyltetrahydroglyoxaline**, 2-imino- (*propyleneguanidine*), platinichloride and aurichloride (SCHENCK), 1910, A., i, 100.
- N*-Methyltetrahydro- $\beta$ -naphthylamine** and its nitrate, hydrochloride, and nitrosoamine (SMITH), 1904, T., 735; P., 111.
- 1-Methyl- $\Delta^3$ -tetrahydronicotinic acid.** See Arecaidine.  
methyl ester. See Arecoline.
- N*-Methyltetrahydropapaverine**, amino-, and its salts (PSCHORR, STÄHLIN, and SILBERBACH), 1904, A., i, 612.
- 3-Methyl-1:2:3:4-tetrahydrophenazine**, 1-oximino- (BORSCHÉ), 1910, A., i, 179.
- 1-Methyl- $\Delta^3$ -tetrahydropyridine**, 3-cyano-, hydrochloride of (WÖHL and JOHNSON), 1908, A., i, 49.
- 1-Methyl- $\Delta^3$ -tetrahydropyridine-3-aldehyde.** See Arecaidinealdehyde.
- 2-Methyltetrahydropyridine** and its salts (HAGA and MAJIMA), 1903, A., i, 291.
- 2-Methyltetrahydroquinazoline** and its pierate (GABRIEL), 1903, A., i, 446.
- 1-Methyltetrahydroquinazoline-2:4-dione**, 3-amino-, and its acetyl derivative (KUNCKELL), 1910, A., i, 439.
- 1-Methyltetrahydroquinoline.** See Kairolin.
- 2-Methyltetrahydroquinoline** (*tetrahydroquinadine*), racemic, resolution of (POPE and READ), 1910, T., 2199; P., 251.
- 2-Methyltetrahydroquinoline** (*tetrahydroquinadine*), relation between constitution and rotatory power of derivatives of (POPE and WINMILL), 1912, T., 2309; P., 275.
- d*- and *l*-2-Methyltetrahydroquinoline and their hydrochlorides (POPE and READ), 1910, T., 2203.  
hydrogen tartrates (LADENBURG and HERRMANN), 1908, A., i, 364.  
physiological action of (DALE and MINES), 1911, A., ii, 636.
- 2-Methyltetrahydroisoquinoline**, behaviour of, towards chromic acid (FREUND and BECK), 1904, A., i, 618.
- 2-Methyltetrahydroisoquinoline**, 1-cyano- (PYMAN), 1909, T., 1750.  
6- and 7-hydroxy-, and 7:8-dihydroxy-, hydrochloride (PYMAN and REMFRY), 1912, T., 1604; P., 228.  
6:7-dihydroxy- and its hydrochloride and pierate (PYMAN), 1910, T., 275.
- 7- and 8-Methyltetrahydroquinolines**, and their pyridine dyes (KÖNIG and BECKER), 1912, A., i, 496.
- 2-Methyltetrahydroquinolineazaleo**, 8-bromo-, and its hydrochloride and platinichloride (KUNCKELL), 1910, A., i, 507.
- 2-Methyltetrahydroquinoline-1-carboxylic acid**, methyl ester (VAN DORP), 1905, A., i, 82.
- N*-Methyltetrahydroquinoliniumacetic acid**, ethyl ester, *d*-camphorsulphonate and iodide of (E. and O. WEDEKIND and OECHSLIN), 1907, A., i, 1074.
- 2-Methyltetrahydroisoquinoliniumacetic acid iodide**, *l*-menthyl ester of (WEDEKIND and NEY), 1912, A., i, 501.
- 2-Methyltetrahydroisoquinolone**, 6:7-dihydroxy- (PYMAN), 1910, T., 271.
- 2-Methyltetrahydrothiophen** and its derivatives (v. BRAUN), 1911, A., i, 75.
- 4-Methyl-2(tetrahydro-2'-thio-6'-pyrimidonethiol)-1:6-dihydro-6-pyrimidone** (JOHNSON and SHEPARD), 1911, A., i, 925.
- 3-Methyl-1:2:3:4-tetrahydroxanthylum chloride** and its derivatives (BORSCHÉ and GEYER), 1912, A., i, 892.
- $\beta$ -Methyltetramethylenediamine**, preparation of (FARBENFABRIKEN VORM. F. BAYER & Co.), 1910, A., i, 303.
- Methyldicyclopentanetetra-carboxylic acid**, ethyl ester (JONES), 1905, T., 1063; P., 216.
- 1-Methyltetrone-4-carboxylic acid**, ethyl ester (BENARY), 1911, A., i, 673.
- Methyltetronic acid** (BENARY), 1911, A., i, 673.

- Methylthebainium salts** (GERBER), 1911, A., i, 154.
- Methylthebainone** (*thebainone methyl ether*) and its methiodide (PSCHORR), 1905, A., i, 921.
- Methylthebainonemethine** and its derivatives (PSCHORR), 1905, A., i, 921. action of acetic anhydride on, and decomposition of (KNORR and PSCHORR), 1905, A., i, 922.
- Methylthebaol** from codeine (KNORR), 1903, A., i, 849.
- diacetyl derivative (VONGERICHTEN and HÜBNER), 1907, A., i, 718.
- 8-Methyltheobromine**, trichloro-, preparation of (BOEHRINGER & SÖHNE), 1904, A., i, 340.
- 6-Methylthianthrene**, amino- and nitro-amino-derivatives (FRÖHLICH), 1907, A., i, 632.
- 4-Methyl-1:4-thiazan** and its salts (CLARKE), 1912, T., 1586; P., 218.
- 4-Methyl-1:4-thiazan-4-acetic acid**, 4-bromo-, ethyl ester (CLARKE), 1912, T., 1809.
- 5-Methyl-4-thiazolidone-3-acetic acid**, 2-thio- (KÖRNER), 1908, A., i, 510.
- ψ **Methylthiocarbamide** chloroacetate (WHEELER and MERRIAM), 1903, A., i, 525.
- Methylthiocarbamidoazotoluene** (BUSCH and BERGMANN), 1905, A., i, 309.
- Methyl-β-thiocarbomidoethylsulphone** (SCHNEIDER, MÜLLER, and BECK), 1912, A., i, 192.
- Methyl-δ-thiocarbamidobutylsulphone** (SCHNEIDER and KAUFMANN), 1912, A., i, 837.
- β-Methylthiocodide** and its methiodide (PSCHORR and KRECH), 1910, A., i, 422.
- 7-Methylthiocoumarin** (CLAYTON), 1908, T., 527; P., 26.
- 7-Methylthiocoumarin**, 6-nitro- (CLAYTON and GODDEN), 1912, T., 214.
- Methyl-γ-thiocyanopropylsulphone** (SCHNEIDER), 1910, A., i, 659.
- 5-Methyl-1:2:3-thiodiazole** (WOLFF, BOCK, LORENTZ, and TRAPPE), 1903, A., i, 208.
- and its additive salts (WOLFF, KOPITZSCH, and HALL), 1904, A., i, 828.
- 5-Methyl-1:2:3-thiodiazole-4-carboxylic acid** and its ethyl ester (WOLFF, BOCK, LORENTZ, and TRAPPE), 1903, A., i, 208; (WOLFF, KOPITZSCH, and HALL), 1904, A., i, 828.
- N-Methylthiodiphenylamine** mercuriodide (BARNETT and SMILES), 1910, T., 985.
- chloro- (PAGE and SMILES), 1910, T., 1116.
- N-Methylthiodiphenylamine-2:7-diphthaloylic acid** (SCHOLL, SEER, and TRITSCH), 1911, A., i, 558.
- Methylthioglycoll-phenyl-phenyl-methyl-, and -p-tolyl-hydrazides** (FRERICHS and FÖRSTER), 1910, A., i, 192.
- γ-α-Methylthiohydantoic acid** and its barium salt (KOMATSU), 1911, A., i, 684.
- 2- and -r-5-Methylthiohydantoin** (KOMATSU), 1911, A., i, 684.
- 1-Methylthiolanthraquinone** (GATTERMANN), 1912, A., i, 999.
- 5-Methylthiolanthraquino-1-thiazole** (GATTERMANN), 1912, A., i, 1005.
- p-Methylthiolbenzaldehyde** and its derivatives (GATTERMANN), 1912, A., i, 985.
- o- and p-Methylthiolbenzaldehydes** and their derivatives (FRIEDLÄNDER and LENK), 1912, A., i, 702.
- 1-Methylthiolbenzene**, 4-iodo-, and its derivatives (ZINCKE and JÖRG), 1911, A., i, 40.
- o-Methylthiolbenzoic acid** (HINSBERG), 1910, A., i, 260.
- and its methyl ester (FRIEDLÄNDER and MÜLLER), 1907, A., i, 335; (FAIRWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1909, A., i, 231.
- preparation of (FAIRWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1908, A., i, 648, 797.
- o-Methylthiolbenzoic acid**, 4-chloro- (FAIRWERKE VORM. MEISTER, LUCIUS, and BRÜNING), 1909, A., i, 797.
- p-Methylthiolbenzoic acid** (ZINCKE and JÖRG), 1911, A., i, 40; (GATTERMANN), 1912, A., i, 985.
- p-Methylthiolbenzonitrile** (ZINCKE and JÖRG), 1911, A., i, 40.
- 5-Methylthiol-4-benzoyl-1-phenyl-3-methylpyrazole**. See 4-Benzoyl-ψ-thiopyrine.
- 3-Methylthiolbenzyl acetate**, 2:5-dibromo-4-hydroxy-, and its diacetyl derivative (ZINCKE, FROHNEBERG, and KEMPF), 1911, A., i, 440.
- 3-Methylthiolbenzyl alcohol**, 2:5-dibromo-4-hydroxy-, and its methyl ether (ZINCKE, FROHNEBERG, and KEMPF), 1911, A., i, 440.
- 6-Methylthiol-3-benzylidihydro-2-pyrimidone** (WHEELER and JOHNSON), 1909, A., i, 677.
- 2-Methylthiol-4-benzylidene-1:5-dihydro-5-glyoxalone** (JOHNSON and NICOLET), 1912, A., i, 808.
- 2-Methylthiol-4-benzylidene-1-methyl-1:5-dihydro-5-glyoxalone** (JOHNSON and NICOLET), 1912, A., i, 808.

- Methylthiolcarbonic acid**, methyl ester (DELÉPINE), 1910, A., i, 613.
- Methylthiolcarboxymethylbenzoic acid**. See 4-Carboxy-*m*-tolylthiolacetic acid.
- 5-Methylthiol-*o*-cresol**, 3-bromo-, 3:6-*di*bromo-, and 3-nitro-, and their derivatives (ZINCKE and BRUNE), 1911, A., i, 198.
- 3-Methylthiol-*p*-cresol**, 5-bromo-, and 2:5-*di*bromo-, and their derivatives (ZINCKE and KEMPF), 1911, A., i, 287.
- 2:5-*di*bromo-,  $\psi$ -bromide, and its derivatives (ZINCKE, FROHNEBERG, and KEMPF), 1911, A., i, 439.
- 6-Methylthiol-dihydro-2-pyrimidone** (WHEELER and JOHNSON), 1909, A., i, 677.
- 2-Methylthiol-dihydro-4-pyrimidone**, 6-amino- and 5-bromo-6-amino- (JOHNSON and JOHNS), 1905, A., i, 836.
- 5:6-*di*amino- and 6-amino-5-nitroso- (JOHNSON, JOHNS, and HEYL), 1906, A., i, 771.
- 2-Methylthiol-dihydro-6-pyrimidone** and its 4- and 5-methyl-, 4-methyl-5-ethyl-, and 4-phenyl derivatives (WHEELER and MERRIAM), 1903, A., i, 524.
- hydrochloride (WHEELER, BRISTOL, and JOHNSON), 1905, A., i, 483.
- 2-Methylthiol-dihydro-6-pyrimidone-5-carboxylic acid** and its ethyl ester (WHEELER, JOHNSON, and JOHNS), 1907, A., i, 560.
- 2-Methylthiol-1:4-dimethyl-dihydro-6-pyrimidone** (WHEELER and McFARLAND), 1909, A., i, 678.
- 6-Methylthiol-1:4- and -3:4-dimethyl-dihydro-2-pyrimidone** (WHEELER and McFARLAND), 1909, A., i, 970.
- 5-Methylthiol-1:3-dimethylpyrazole** and its derivatives (MICHAELIS and LACHWITZ), 1910, A., i, 642.
- 4'-Methylthiol-diphenylamine**, 4-nitro-2-amino-, and 2:4-*di*nitro- (ZINCKE and JÖRG), 1911, A., i, 40.
- 3-Methylthiol-1:5-diphenyl-4-benzyl-dihydro-1,2,4-triazole**, 5-hydroxy- and 5-iodo- (BUSCH, KAMPHAUSEN, and SCHNEIDER), 1903, A., i, 532.
- Methylthiol-diphenylhydro-1,2,4-triazole**, iodo-, and its methyl derivative (BUSCH and SCHNEIDER), 1903, A., i, 534.
- Methylthiol-1:3-diphenylpyrazole** and its 1-*m*-nitro-derivative and their sulphones (MICHAELIS and WILLERT), 1908, A., i, 215.
- 3-Methylthiol-1:5-diphenylpyrazole** and its 4-nitroso-derivative and sulphone (MICHAELIS and WILLERT), 1908, A., i, 214.
- 3-Methylthiol-1:5-diphenylthiodiazoline**, bromo-, chloro-, and 5-iodo-derivatives of (BUSCH, KAMPHAUSEN, and SCHNEIDER), 1903, A., i, 532.
- 3-Methylthiol-4:5-diphenyl-1-*p*-tolyl-dihydro-1,2,4-triazole**, hydroxy-, and iodo- (BUSCH and BLUME), 1903, A., i, 535.
- 5-Methylthiol-1:3-diphenyl-1,2,4-triazole** (WHEELER and STATIROPOULOS), 1905, A., i, 722.
- 6-Methylthiol-3-methylacetophenone** (AUWERS and ARNDT), 1909, A., i, 176.
- Methylthiolmethylbenzoic acid**. See Methylthiol-toluic acid.
- 6-Methylthiol-3-methyl-dihydro-2-pyrimidone** (WHEELER and JOHNSON), 1909, A., i, 677.
- 6-Methylthiol-4-methyl-dihydro-2-pyrimidone**, and action of methyl iodide, and benzyl chloride on (WHEELER and McFARLAND), 1909, A., i, 969.
- 2-Methylthiol-5-methyl-dihydro-6-pyrimidone** and its 4-carboxylic acid and its ethyl ester and potassium salt (JOHNSON), 1907, A., i, 879.
- 6-Methylthiol-5-methyl- and 3:5-dimethyl dihydropyrimidones** (WHEELER, McFARLAND, and STOREY), 1910, A., i, 139.
- 2-Methylthiol-4-methyl-dihydro-6-pyrimidone-5-acetic acid** (JOHNSON and HEYL), 1908, A., i, 59.
- 2-Methylthiol-4-methylpyrimidine**, 6-chloro-, and 6-thio- (WHEELER and McFARLAND), 1909, A., i, 969.
- 2-Methylthiol-5-methylpyrimidine**, 4:6-*di*chloro- (WHEELER and JAMIESON), 1904, A., i, 942.
- 1-Methylthiol-naphthalene-4-azodimethylaminobenzene** and its hydrochloride (ZINCKE and SCHÜTZ), 1912, A., i, 348.
- 1-Methylthiol-naphthalene-4-azo- $\beta$ -naphthol** (ZINCKE and SCHÜTZ), 1912, A., i, 348.
- 1-Methylthiol-naphthalene-4-diazonium salts** (ZINCKE and SCHÜTZ), 1912, A., i, 348.
- 1-Methylthiol-naphthalene-4-diazosulphonic acid**, salts of (ZINCKE and SCHÜTZ), 1912, A., i, 348.
- 1-Methylthiol-naphthalene-4-hydrazine-sulphonic acid**, potassium and barium salts (ZINCKE and SCHÜTZ), 1912, A., i, 348.
- 2-Methylthiol-1-phenyl-4-benzylidene-hydantoin** (WHEELER and BRAUT-LEIGHT), 1911, A., i, 500.
- 5-Methylthiol-1-phenyl-3-methyl-4-antipyrinylpyrazole**. See Anti- $\psi$ -thiopyrine.



- 5-Methylthiol-1-phenyl-3-methylpyrazole** (4-*thiopyrine*) and its sulphone, and their additive salts, and 4-bromo- and nitro-compounds (MICHAELIS, BESSON, MOELLER, and KOBER), 1904, A., i, 782.  
and its salts and alkyl haloids, and 4-bromo- (MICHAELIS and HAHN), 1905, A., i, 379.  
amino- and nitro-derivatives of (MICHAELIS, GRAFF, GESING, and BOIE), 1911, A., i, 234.
- 5-Methylthiol-3-phenyl-1-methylpyrazole** ( $\psi$ -*isothiopyrine*) and its derivatives (MICHAELIS and DORN), 1907, A., i, 249.
- 1-Methylthiolphenyl-4-methylsulphoxide** and its dibromide (ZINCKE and FROHNEBERG), 1909, A., i, 643.
- Methylthiolphenylthiodiazoline**, iodo- (BUSCH and SCHNEIDER), 1903, A., i, 534.
- p*-**Methylthiolphenyltrimethylammonium** chloride and iodide (ZINCKE and JÖRG), 1909, A., i, 790.
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- 3-Methylthiol-*p*-toluic acid** (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1909, A., i, 251.
- Methylthioltolyl** 4-iodochloride, 2-trichloro- (ZINCKE and ROLLHAÜSER), 1912, A., i, 551.
- 2-Methylthiol-3-*p*-tolyl-6-methyl-3:4-dihydroquinazoline** and its additive salts (V. WALTHER and BAMBERG), 1906, A., i, 387.
- 3-Methylthiol-1-tolyl-5-methylpyrazoles**. See 3- $\psi$ -Thiolylypyrines.
- 2-Methylthiol-*p*-tolyltrimethylammonium** chloride and iodide and their derivatives (ZINCKE and ROLLHAÜSER), 1912, A., i, 550.
- 3-Methylthiol-1:3:5-triphenyldihydro-1,2,4-triazole**, 5-hydroxy- and 5-iodo- (BUSCH, KAMPHAUSEN, and SCHNEIDER), 1903, A., i, 532.
- 4-Methylthio- $\beta$ -naphthaquinone** and its derivatives (ZINCKE and SCHÜTZ), 1912, A., i, 349.
- 4-Methyl-(1)-thionaphthen**, 6-chloro-3-hydroxy- (KALLE & Co.), 1912, A., i, 209.  
2-hydroxy- (BADISCHE ANILIN- & SODA-FABRIK), 1910, A., i, 764.
- 4-Methyl-(1)-thionaphthen-*o*-carboxylic acid**, 6-chloro-3-hydroxy- (KALLE & Co.), 1912, A., i, 209.
- 4-Methylthionaphthenquinone**, oxime and phenylhydrazone of, and the benzoyl derivative of the latter (ACWERS and ARNDT), 1911, A., i, 587.
- 5-Methylthionaphthenquinone-*p*-dimethylamino-2-anil** (PUMMERER), 1910, A., i, 510.
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- 2-Methylthiophen**, influence of light and heat on the bromination and chlorination of (OPOLSKI), 1905, A., i, 367.
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- 5-Methylthiophen-2-aldehyde** and its derivatives (GRISHKEWITSCH-TROCHIMOWSKY), 1911, A., i, 806.
- 4-Methylthiophen-5-carboxylic acid**, 3-hydroxy- (HINSBERG), 1910, A., i, 335.
- 4-Methylthiophen-2:5-dicarboxylic acid** 3-hydroxy-, ethyl hydrogen ester (HINSBERG), 1910, A., i, 335.
- 3-Methylthio-1-phenyl-4:5-dimethylpyrazole**. See Methyl- $\psi$ -3-thiopyrine.
- 3-Methylthio-1-phenyl-5-methyl-4-ethylpyrazole**. See Ethyl- $\psi$ -2-thiopyrine.
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- Methylthiopyrine** and its additive salts, trioxide, and dichloro-derivative (MICHAELIS, MOELLER, and KOBER), 1904, A., i, 781.
- Methyl-3-thiopyrine** and - $\psi$ -3-thiopyrine (MICHAELIS and DREWS), 1907, A., i, 157.
- Methyl- $\psi$ -thiopyrone** and its additive salts and sulphone (MICHAELIS, BESSON, MOELLER, and KOBER), 1907, A., i, 783.
- Methyl- $\psi$ -thiopyrrolidone** (TAFEL and LAWACZECK), 1907, A., i, 720.
- 1-Methylthioquinolone** methiodide and allyl iodide (FISCHER and MERL), 1903, A., i, 52.
- Methylthiosalicylic acid**. See *o*-Methylthiolbenzoic acid.

- S-Methylthiourethane** (V. BRAUN), 1903, A., i, 14.
- Methylthioxanthanol**, methyl ether (DECKER and V. FELLEBERG), 1905, A., i, 668.
- Methylthioxanthone** (DAVIS and SMILES), 1910, T., 1297; P., 174.
- 2-Methylthioxanthone** (MAYER), 1910, A., i, 261.
- 5-Methylthioxanthone**, 2-hydroxy- (CHRISTOPHER and SMILES), 1911, T., 2050.
- 7-Methylthioxanthone**, 2-amino-, and 2-hydroxy- (CHRISTOPHER and SMILES), 1911, T., 2049.
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- Methyl-tin compounds** (POPE and PEACHEY), 1903, P., 290; A., i, 741; (PFEIFFER and LEHNARDT), 1903, A., i, 470, 802.
- N-Methyl-o-tolidine** and its salts and derivatives (RASSOW and BECKER), 1911, A., i, 932.
- Methyl-p-toluidine**, hydroxy- (EINHORN), 1905, A., i, 344.
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- bromo-derivatives and their perbromides (FRIES), 1906, A., i, 647.
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- Methyl-p-toluidine**, preparation of (V. BRAUN), 1908, A., i, 626.
- N-benzoyl derivative (V. BRAUN), 1908, A., i, 626.
- Methyl-p-toluidine**,  $\omega$ -cyano- (BADISCHE ANILIN- & SODA-FABRIK), 1903, A., i, 336; 1905, A., i, 438.
- Methyl-p-toluidineacetone** (V. BRAUN), 1908, A., i, 626, 628.
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- 2-Methyl-1:3-triazo-7:0'-pyrimidine**. See 2-Methyl-1:3:7:9-benzotetrazole.
- $\alpha$ -Methyltricarballic acid**, and its ethyl ester (HOPE), 1912, T., 902.
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- $\beta$ -Methyltricarballic acid** and its anhydride (HOPE), 1912, T., 910; P., 93.
- $\alpha$ -Methyltricarballic acids**, isomeric (ANSCHÜTZ and DESCHAUER), 1906, A., i, 728.
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- Methyltrimethenyldicarboxylic acid** (FEIST and BEYER), 1906, A., i, 335.
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- $\beta$ -Methyltrimethylene dibromide.** See *iso*Butane, *dibromo*.
- as*-Methyl-3:3'-trimethylenedibenzo-spiropyran** (BORSCHKE and GEYER), 1912, A., i, 894.
- 2-Methyltrimethyleneimine** (FARBEN-FABRIKEN VORM. F. BAYER & CO.), 1912, A., i, 822.
- Methyltrimethyleneoxidedicarboxylic acid**, chloro-, diamide of (LEUCHS), 1905, A., i, 545.
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- 3-Methyltriphenylmethane**, 4-hydroxy-. See Diphenyl-6-hydroxy-*m*-tolylmethane.
- Methyltripropylammonium ferrichloride** (SCHOLTZ), 1910, A., i, 96.
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- N*-Methyltyrosine**, synthesis of (FRIEDMANN and GUTMANN), 1910, A., i, 741; (JOHNSON and NICOLET), 1912, A., i, 585.
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- 1-Methyluracil**, 5-hydroxy-, and 2-thio-5-hydroxy- (JOHNSON and JONES), 1909, A., i, 123.
- 3-Methyluracil**, preparation of (WHEELER and JOHNSON), 1909, A., i, 677.
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- 4-Methyluracil**, benzyl derivatives of (WHEELER and MCFARLAND), 1909, A., i, 677.
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- 5-Methyluracil.** See Thymine.
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- 4-Methyluracil-5-acetic acid**, synthesis of, and its esters and salts (JOHNSON and HEYL), 1908, A., i, 59.
- 5-Methyluramil** (FISCHER and DILTHEY), 1905, A., i, 37.
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- $\alpha$ -bromo-** (EHRICH), 1908, A., i, 396.
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- 2-Methyl-6-vinylpiperidine and its derivatives** (LÖFFLER and REMMLER), 1910, A., i, 633.
- 2- $\alpha$ -Methylvinylpyridine and its salts** (LÖFFLER and GROSSE), 1907, A., i, 439.
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- 1-Methylxanthine, synthesis of** (ENGELMANN), 1909, A., i, 192.
- 3-Methylxanthine** (TRAUBE and NIT-HACK), 1906, A., i, 215.
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- 3-Methylxanthine-8-carboxylic acid, and -8-acetic acid** (FARBENFABRIKEN VORM. F. BAYER & Co.), 1910, A., i, 78.
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- Methylxanthotoxic acid and its methyl ester** (THOMS and PREIS), 1912, A., i, 40.
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- 7(10)- and 8(9)-amino-1-hydroxy-, and 1:5-di- and 1:4:5-trihydroxy- (BENTLEY, FRIEDL, and WEIZMANN), 1907, T., 1591.
- 6-chloro-1-hydroxy-, and its sodium salt (ANILINFARBEN & EXTRACT-FABRIKEN VORM. J. R. GEIGY), 1911, A., i, 137.
- 7:10-dichloro-1-hydroxy-, 7:10-dichloro-1:6-dihydroxy-, 7:10-dichloro-1:6-diacetoxy-, 7:10-dichloro-1:5-dihydroxy-, 7:10-dichloro-6-amino-1-hydroxy-, 7:8:9:10-tetrachloro-1-hydroxy-, and 7:8:9:10-tetrachloro-1:6-dihydroxy- (HARROP, NORRIS, and WEIZMANN), 1909, T., 283.
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- Naphthacenequinone-4(?)sulphonic acid**, 1:5-dihydroxy- (BENTLEY, FRIEDL, THOMAS, and WEIZMANN), 1907, T., 425.
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- $\beta$ -Naphthacinchonic acid** (HOUBEN and DOESCHER), 1911, A., i, 61.
- $\beta$ -Naphthacinchoninic acid** (m.p. 248°) from an aldehyde from oil of nutmeg (POWER and SALWAY), 1907, T., 2053; P., 285.
- Naphthacoumarin**, acetyl and benzoyl derivatives and **carboxylic acid** and its ethyl ester (KNOEVENAGEL and SCHRÖDER), 1905, A., i, 63.
- Naphthacoumarins**,  $\alpha$ - and  $\beta$ -acetyl derivatives of (BARTSCH), 1903, A., i, 648.
- 1:2-Naphthacoumarincarboxylic acid** (BETTI and MUNDICI), 1905, A., i, 213.
- $\alpha$ -Naphthacoumarin-4-carboxylic acid** and  **$\beta$ -Naphthacoumarin-3-carboxylic acid** and their ethyl esters (BARTSCH), 1903, A., i, 648.
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- Naphthacoumarinketoacetic acid**, ethyl ester (KNOEVENAGEL and LANGENSIEPEN), 1905, A., i, 64.
- 3- $\beta$ -Naphthacoumaryl phenyl and methyl ketones** and the dibromide and phenylhydrazone of the methyl compound (BARTSCH), 1903, A., i, 649.
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- Naphthacridines** (ULLMANN and FETVADJIAN), 1903, A., i, 520.
- Naphthacridines**, amino-, syntheses of (ULLMANN and BÜHLER), 1906, A., i, 44.
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- Naphthacridones**, 1:2- and 2:1- (ULLMANN and RASETTI), 1907, A., i, 846.
- Naphthacrihydridine** (MÖHLAU and HAASE), 1903, A., i, 126.
- mesoNaphthadianthrone** (SCHOLL, MANSFELD, and POTSCHWAUSCHEG), 1910, A., i, 495.
- (1:5)-Naphthadiquinoline** and its dihydrochloride and its dinitrate (FINGER and SPITZ), 1909, A., i, 523.

- $\alpha$ -Naphtha-flavone, -flavonol and its acetyl derivative, and -flavonone and its bromo- and isonitroso-derivatives (WOKER), 1906, A., i, 447.
- $\alpha$ -Naphthaflavonol, 3'- and 4'-hydroxy- (v. KOSTANECKI, ENGELSOHN, and WURZELMANN), 1908, A., i, 359.
- 3':4'-dihydroxy-, and its triacetyl derivative (BIGLER and v. KOSTANECKI), 1907, A., i, 76.
- Naphthafluoravine (HINSEBERG and SCHWANTES), 1904, A., i, 199.
- $\alpha$ -Naphthafluoran, tetrachloro- (HARROP, NORRIS, and WEIZMANN), 1909, T., 286.
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- isoNaphthafluorenol, and its derivatives (THIELE and WANSCHIEDT), 1910, A., i, 831.
- isoNaphthafluorenone, oxime of (THIELE and WANSCHIEDT), 1910, A., i, 831.
- Naphthafluorindine (NIETZKI and VOLLENBRUCK), 1904, A., i, 1063.
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- $\beta$ -Naphthalenesulphonyl-*l*-asparagine** (KOENIGS and MYLO), 1909, A., i, 88.
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- $\beta$ -Naphthalenesulphonylcupeine** (HIRAYAMA), 1909, A., i, 344.
- $\beta$ -Naphthalenesulphonylcupeone** (HIRAYAMA), 1909, A., i, 344.
- as*-Naphthalene- $\beta$ -sulphonylethyl-benzidine and -diphenyldiazonium salts** and their azo- $\beta$ -naphthols (MORGAN and MICKLETHWAIT), 1908, T., 620.
- Naphthalenesulphonylglycinamide** (BERGELL and V. WÜLFING), 1910, A., i, 304.
- $\beta$ -Naphthalenesulphonylglycyl-*l*-tyrosine** (ABDERHALDEN and FUNK), 1910, A., i, 320.
- $\beta$ -Naphthalenesulphonyl-*dl*-leucinamide** (KOENIGS and MYLO), 1909, A., i, 88.
- $\beta$ -Naphthalenesulphonylmethylamide**, nitroso- (FARBENFABRIKEN VORM. F. BAYER & Co.), 1910, A., i, 726.
- 1- $\beta$ -Naphthalenesulphonyl-2-methyl-5-ethyltetrahydropyridine** (KOENIGS, BERNHART, and IBELE), 1907, A., i, 792.
- Naphthalene- $\alpha$ - and - $\beta$ -sulphonyl-*p*-nitroanilines** (MORGAN and MICKLETHWAIT), 1905, T., 924; P., 179.
- Naphthalene- $\beta$ -sulphonylnitroethylaminodiphenyl** (MORGAN and MICKLETHWAIT), 1908, T., 620.
- $\beta$ -Naphthalenesulphonyl-*dl*-phenylalaninamide** (KOENIGS and MYLO), 1909, A., i, 88.
- Naphthalene- $\alpha$ - and - $\beta$ -sulphonyl-*p*-phenylenediamines**, diazotisation of (MORGAN and MICKLETHWAIT), 1905, T., 924; P., 179.
- $\beta$ -Naphthalenesulphonyltryptophans** (ELLINGER and FLAMAND), 1908, A., i, 378.
- N*- $\beta$ -Naphthalenesulphonyltyrosine**, sodium salt and ethyl ester (ABDERHALDEN and FUNK), 1910, A., i, 320.
- o*- $\beta$ -Naphthalenesulphonyltyrosine** hydrochloride and ester hydrochloride (ABDERHALDEN and FUNK), 1910, A., i, 320.
- $\beta$ -Naphthalenesulphonyl-*dl*-valinamide** (KOENIGS and MYLO), 1909, A., i, 88.
- Naphthalene-1:4:8-tricarboxylic acid** and its silver salt (GRAEBE and HAAS), 1903, A., i, 409.
- Naphthalic acid**. See Naphthalene-1:8-dicarboxylic acid.
- $\alpha$ -Naphthalides**, anilides, and *p*-toluidides of normal fatty acids, melting points of (ROBERTSON), 1908, T., 1033; P., 120.

- peri*-Naphthalideacetic acid and its silver salt (PAULY and WALTER), 1911, A., i, 986.
- Naphthalido-**. See Naphthylamino-.
- Naphthalimide**, conversion of, into naphthastyril (PISOVSCHI), 1911, A., i, 230.
- Naphthalimide**, bromo-, *tetra*- and *hexa*-chloro-, and *tri*iodo-, derivatives of (FRANCESCONI and BARGELLINI), 1903, A., i, 36.
- N-Naphthalimido-*p*-benzoquinoneimine** (OSTROGOVICH and MIHAILESCU), 1912, A., i, 314.
- N-Naphthalimidocitraconamic acid** (OSTROGOVICH and MIHAILESCU), 1912, A., i, 313.
- N-Naphthalimidocitraconimide** (OSTROGOVICH and MIHAILESCU), 1912, A., i, 313.
- N-Naphthalimidomaleinamic acid** and its salts (OSTROGOVICH and MIHAILESCU), 1912, A., i, 311.
- N-Naphthalimidomaleinimide** (OSTROGOVICH and MIHAILESCU), 1912, A., i, 312.
- N-Naphthalimidonaphthalimide** (OSTROGOVICH and MIHAILESCU), 1912, A., i, 313.
- N-Naphthalimidophthalimide** (OSTROGOVICH and MIHAILESCU), 1912, A., i, 313.
- N-Naphthalimidosuccinamic acid** (OSTROGOVICH and MIHAILESCU), 1912, A., i, 312.
- N-Naphthalimidosuccinimide** (OSTROGOVICH and MIHAILESCU), 1912, A., i, 312.
- Naphthalonic acid** (ERRERA and CUFFARO), 1912, A., i, 273.
- Naphthaloperinone** and *dibromo*-, *di*-nitro-, and *diamino*- (SACHS), 1909, A., i, 430.
- Naphthamethylcoumarin**, azo-derivatives from (HEWITT and MITCHELL), 1905, P., 302.
- 1:2-Naphthamethylenequinone** (*β*-naphthoquinone 1-methide), and 6-bromo- (FRIES and HÜBNER), 1906, A., i, 191.
- Naphthamic acid**, thio-, Piria's (RUYTER DE WILDT), 1904, A., i, 572.
- Naphthaminobenzaldehydine-7-sulphonic acid**, 5-hydroxy-, preparation of (CASSELLA & Co.), 1907, A., i, 254.
- β-Naphthamorpholone** (LEES and SHEDDEN), 1903, T., 759; P., 132.
- Naphthan-β-diols**, *cis* and *trans*, and their diacetates and diphenylurethanes, and *cis* + *trans*-compound (LEROUX), 1909, A., i, 569.
- Naphthanthracridone** (BADISCHE ANILIN- & SODA-FABRIK), 1912, A., i, 504.
- Naphthanthraquinone** and its **sulphonic acid** (HELLER and SCHÜLKE), 1908, A., i, 994.
- benzanthrone derivatives of (BADISCHE ANILIN- & SODA-FABRIK), 1907, A., i, 943.
- Naphthanthraquinone**, 3- and 4-chloro- (HELLER and GRÜNTAL), 1912, A., i, 357.
- Naphthanthraquinones**, amino-, preparation of (BADISCHE ANILIN- & SODA-FABRIK), 1911, A., i, 884.
- 1':2'-Naphth-2:3-anthraquinoneazine** (SCHOLL and KAČER), 1905, A., i, 89.
- Naphthanthraquinoneazines**, preparation of (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1911, A., i, 509.
- Naphthanthraquinonesulphonic acid**, *di*- and *tetra*-chloro- (GRAEBE and PETER), 1905, A., i, 704.
- 1:8-Naphthaphenanthiophen**, hydroxy-, and its acetyl derivative (FRIEDLÄNDER, VOROSCHTSOFF, and ECKSTEIN), 1912, A., i, 294.
- Naphthaphenanthrenecarboxylamide**, cyano- (HINSBERG), 1910, A., i, 486.
- Naphthaphenanthridines**, α- and β-, and their additive salts, and α- and β-Naphthaphenanthridones (GRAEBE), 1905, A., i, 82.
- αβ-Naphthaphenazine**, oxidation of, by chromic acid (FISCHER), 1904, A., i, 111; (FISCHER and SCHINDLER), 1906, A., i, 609.
- αβ-Naphthaphenazine**, 7-amino- and 9-hydroxy-, and their derivatives (ULLMANN and HEISLER), 1910, A., i, 74.
- 8-amino-, and its *N*-acetyl derivative and additive salts, 8-amino-2-hydroxy-, and 8-amino-6-hydroxy- (ULLMANN and ANKERSMIT), 1905, A., i, 553.
- 8:10-, and 9:11-diamino-, and their acetyl derivatives (KEHRMANN and RIERA Y PUNTI), 1911, A., i, 927.
- ββ-Naphthaphenazine**, *dichloro*- (ZINCKE and FRIES), 1904, A., i, 1009.
- Naphthaphenazines**, formation of (AKT. GES. FÜR ANILIN-FABRIKATION), 1905, A., i, 552.
- Naphthaphenazine-5-carboxylic acid**, and its sodium salt (ULLMANN and HEISLER), 1910, A., i, 74.



- $\alpha\beta$ -Naphthaphenazine-*s*- and -*as*- $\alpha\beta$ -naphthazines and their salts (FISCHER and SCHINDLER), 1908, A., i, 221.
- Naphthaphenazine-8-sulphonic acid and its barium salt (ÜLLMANN and HEISLER), 1910, A., i, 74.
- Naphtha-phenazonium and its chloride and -phenazine and its hydrochloride, 9-hydroxy- (KEHRMANN and BRUNEL), 1908, A., i, 580.
- Naphthaphenazoxonium chloride, 4:8-diamino- (KEHRMANN), 1905, A., i, 949.
- Naphthaphenosafraanine (BARBIER and SISLEY), 1907, A., i, 160.  
derivatives, preparation of (KEHRMANN), 1907, A., i, 1087.
- Naphthaphenoxazine and its derivatives (FISCHER and HEPP), 1903, A., i, 654.
- Naphthaphenoxazone, action of hydroxylamine hydrochloride on (KEHRMANN and DE GOTTRAU), 1905, A., i, 670.
- Naphthaphenoxazone, 2-hydroxy-, and its methyl ether (FISCHER and HEPP), 1903, A., i, 654.
- Naphthaprasindone, amino-, and its acetyl derivative and salts (KEHRMANN and SCHWARZENBACH), 1908, A., i, 297.
- Naphthapyranthrone (SCHOLL), 1912, A., i, 195.
- 1:2- $\alpha$ -Naphthapyrone (BEZDZIK and FRIEDLÄNDER), 1909, A., i, 416.
- $\alpha\beta$ -Naphthapyrone, 3-cyano-4-hydroxy-, and its ethyl ether, and potassium, and silver salts (ANSCHÜTZ and RUNKEL), 1909, A., i, 732.  
4-hydroxy- (ANSCHÜTZ and RUNKEL), 1909, A., i, 731.
- $\beta\beta$ -Naphthapyrone, 3-cyano-4-hydroxy-, and its copper, and sodium salts and acetate (ANSCHÜTZ and GRAFF), 1909, A., i, 665.  
4-hydroxy- (ANSCHÜTZ and GRAFF), 1909, A., i, 665.
- $\alpha\beta$ -Naphthapyrone-3-carboxylamide, 4-hydroxy- (ANSCHÜTZ and RUNKEL), 1909, A., i, 732.
- $\beta\beta$ -Naphthapyrone-3-carboxylamide, 4-hydroxy- (ANSCHÜTZ and GRAFF), 1909, A., i, 665.
- $\alpha\beta$ -Naphthapyrone-3-carboxylic acid, 4-hydroxy-, ethyl ester, and its ethyl ether, and metallic salts (ANSCHÜTZ and RUNKEL), 1909, A., i, 731.
- $\beta\beta$ -Naphthapyrone-3-carboxylic acid, 4-hydroxy-, ethyl ester, and its methyl ether, metallic salts, acetate, and phenylhydrazide from (ANSCHÜTZ and GRAFF), 1909, A., i, 665.
- $\alpha$ -N-6  
| -Naphthaquinacridine and its  $\beta$ -CH-5 aurichloride (SENIER and COMPTON), 1909, T., 1631; P., 220.
- $\beta$ -N-6  
| -Naphthaquinacridine and its  $\alpha$ -CH-5 salicylate (SENIER and COMPTON), 1909, T., 1632; P., 220.
- $\alpha$ -Naphthaquinol, methyl ether (FARRWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1911, A., i, 854.
- $\alpha$ -Naphthaquinol, 8-amino- (GRAEBE and OSER), 1905, A., i, 54.
- 1:2-Naphthaquinolanil (A. and H. v. EULER), 1906, A., i, 370.
- $\alpha$ -Naphthaquinoline and its amino- and nitro-derivatives and their additive salts (HAID), 1906, A., i, 605.
- $\beta$ -Naphthaquinoline, diamino-, and its salts and mono- and di-nitro- (HEPNER), 1907, A., i, 244.
- $\alpha$ - and  $\beta$ -Naphthaquinolines, compounds of trinitrobenzene and (SUDBOROUGH and BEARD), 1910, T., 795.
- Naphthaquinoline group, syntheses in the (SIMON and MAUGUIN), 1908, A., i, 296.
- Naphthaquinolinecarboxylic acids, formation of (SIMON and MAUGUIN), 1907, A., i, 725.
- $\alpha$ -Naphthaquinone, vat dyes from (PUMMERER and BRASS), 1911, A., i, 654.  
aminoanilides and dianilides of (MILLER and SMIRNOFF), 1910, A., i, 121.  
 $\beta$ -lactone from (STAUDINGER and BEREZA), 1911, A., i, 461.  
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- $\alpha$ -Naphthaquinone, 8-amino-, acetyl derivative of (GRAEBE and OSER), 1905, A., i, 54.  
2-hydroxy-, preparation of (TEICHER and WEIL), 1905, A., i, 909.  
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- $\beta$ -Naphthaquinone; oxidation of (ROBINSON), 1910, A., i, 270.  
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azoxonium compounds from (KEHRMANN, DE GOTTRAU, and LEMANN), 1907, A., i, 554.

- $\beta$ -Naphthaquinone**, 6-hydroxy- (KEHRMANN), 1907, A., i, 563.
- 7-hydroxy-, azonium compounds and azines from (KEHRMANN and BRUNEL), 1908, A., i, 579.
- 2:6-Naphthaquinone** and its hydrone (WILLSTÄTTER and PARNAS), 1907, A., i, 425.
- 2:6-Naphthaquinone**, 1:5-dichloro-, and its derivatives (WILLSTÄTTER and PARNAS), 1907, A., i, 1056.
- Naphthaquinones**,  $\alpha$ - and  $\beta$ -, action of phenylsemicarbazide on (BORSCHKE and ZELLER), 1904, A., i, 1058.
- isomerism of derivatives of (MILLER), 1911, A., i, 308, 465.
- detection and estimation of (BOSWELL), 1907, A., ii, 411.
- Naphthaquinoneanils**, formation of, from nitrosobenzene (v. EULER), 1906, A., i, 369; (A. and H. v. EULER), 1906, A., i, 370.
- Naphthaquinonebromodiketohydrindene**, bromo- (STADLER), 1903, A., i, 103.
- $\beta$ -Naphthaquinone-4-carboxylic acid** (HELLER and RUHTENBERG), 1912, A., i, 358.
- $\alpha$ -Naphthaquinone-4-cyanomethidecarboxylic acid**, ethyl ester, and its oxime and compound with *o*-phenylenediamine (SACHS and CRAVERI), 1905, A., i, 910.
- $\alpha$ -Naphthaquinone-4-dicarbethoxymethide and -4-dicyanomethide**, 2-hydroxy- (SACHS and CRAVERI), 1905, A., i, 910.
- Naphthaquinonediketohydrindene**, bromo-, and its salts and monoxime (STADLER), 1903, A., i, 102.
- $\beta$ -Naphthaquinonedioxime** and its benzyl ether and their benzoyl derivatives (HANTZSCH and GLOVER), 1907, A., i, 101.
- constitution and colour of derivatives of (HANTZSCH and GLOVER), 1907, A., i, 1055.
- $\beta$ -Naphthaquinone-3:6-disulphonic acid**, sodium salt, action of phenylhydrazine sulphate on (TEICHNER), 1905, A., i, 952.
- $\beta$ -Naphthaquinonehydrazones**. See 2-Benzeneazo- $\alpha$ -naphthols.
- $\alpha$ -Naphthaquinoneoxime**, methyl ether (MEISENHEIMER), 1907, A., i, 862.
- $\beta$ -Naphthaquinone-2-oxime** and its dimethylacetal, and their benzoyl and *p*-nitrobenzyl derivatives, and the methyl ether of the oxime (MEISENHEIMER and WITTE), 1904, A., i, 175.
- $\beta$ -Naphthaquinone-2-oxime**, benzyl ether (HANTZSCH and GLOVER), 1907, A., i, 101.
- $\beta$ -Naphthaquinone-2-oxime**, 4-chloro-, and its compound with 4-chloro-1-hydroxy-2-naphthoic acid (REISSERT), 1911, A., i, 368.
- Naphthaquinoneoximes** (*nitrosonaphthols*) (SLUITER), 1911, A., i, 439.
- $\alpha$ -Naphthaquinone-4-phenyleyanomethide**, 2-hydroxy-, and its phenylhydrazone and methyl and ethyl ethers, and *p*-nitro-2-hydroxy-, and its methyl ether (SACHS and CRAVERI), 1905, A., i, 909.
- $\beta$ -Naphthaquinonephenylhydrazone** (GOLDSCHMIDT and LÖW-BEER), 1905, A., i, 390.
- $\beta$ -Naphthaquinone-4-sulphonic acid**, condensations with (SACHS and CRAVERI), 1905, A., i, 909; (SACHS, BERTHOLD, and ZAAR), 1907, A., i, 426; (SACHS and BERTHOLD), 1907, A., i, 651.
- uses of (EHRlich and HERTER), 1904, A., i, 598.
- $\alpha$ -Naphthaquinone-*p*-toluidide** (v. EULER), 1906, A., i, 369.
- $\beta$ -Naphthaquinone-*p*-tolylhydrazone**. See 2-*p*-Tolueneazo- $\alpha$ -naphthol.
- 4'(2)- $\alpha$ -Naphthaquinonylaminobenzo-phenone**, 4-amino- (PUMMERER and BRASS), 1911, A., i, 655.
- 4'(2)- $\alpha$ -Naphthaquinonylaminodiphenylmethane**, 4-amino- (PUMMERER and BRASS), 1911, A., i, 655.
- $\beta$ -Naphthaquinophthalone** (EIBNER), 1905, A., i, 716.
- Naphthaquinoxaline**, formation of, and its picrate (FISCHER and RÖMER), 1908, A., i, 695.
- Naphthaquinoxaline**, 2:3-dichloro-, and 3-chloro-2-amino- (HINSBERG and SCHWANTES), 1904, A., i, 199.
- Naphthaquinoxalonaphthazine** (HINSBERG and SCHWANTES), 1904, A., i, 199.
- Naphtharesorcinol**. See Naphthalene, 1:3-dihydroxy-.
- Naphthasafrol**, formation of, from isorosindone (FISCHER and ARNTZ), 1907, A., i, 94.
- Naphthastyril**, conversion of naphthalimide into (PISOVSKI), 1911, A., i, 230.
- reactions of (SCHROETER and RÖSSLER), 1903, A., i, 118.
- 1:8-Naphthastyril-acetic and -phenyl-acetic acids**, and their ethyl esters (SCHROETER and RÖSSLER), 1903, A., i, 117.

- $\beta$ -Naphthasulphonium-quinone** (*di-hydro- $\beta$ -naphthol sulphide*) and its phenylhydrazine (HILDITCH and SMILES), 1911, T., 981.  
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- $\beta$ -Naphthasulphonium-quinone**, *di-bromo-*, and its hydrogen bromide additive product (NOLAN and SMILES), 1912, T., 1425; P., 188.
- 1:8-Naphthasultam** and **1:8-iso-Naphthasultam** and their derivatives (DANNERETH), 1907, A., i, 909.
- 1:8-Naphthasultam**, 2:4-*dinitro-* (FARBENFABRIKEN VORM. F. BAYER & Co.), 1909, A., i, 711.
- Naphthasultamsulphonic acid**, and nitro-, sodium salt (FARBENFABRIKEN VORM. F. BAYER & Co.), 1909, A., i, 711.
- 1:3:6:8-Naphthatetrazine**, derivatives of (BOGERT and DOX), 1905, A., i, 841; (BOGERT and NELSON), 1907, A., i, 660.
- 1:3:7:9-Naphthatetrazine**, 4:6-*dihydroxy-* (BOGERT and KROPPF), 1909, A., i, 844.
- Naphthatetronic acid**. See Naphthapyrone, 4-hydroxy-.
- Naphthathianthren**. See Dinaphthylene disulphide.
- "Naphthathioindigo"** (KALLE & Co.), 1912, A., i, 209.
- 1:2-Naphthathiophen**, hydroxy-, and its benzylidene derivative (FRIEDLÄNDER, VOROSCHTSOFF, and ECKSTEIN), 1912, A., i, 295.
- 2:1-Naphthathiophen**, hydroxy-, and its derivatives (FRIEDLÄNDER, VOROSCHTSOFF, and ECKSTEIN), 1912, A., i, 294.
- Naphthathiophen-2-carboxylic acid**, 3-amino-, potassium salt (FRIEDLÄNDER, VOROSCHTSOFF, and ECKSTEIN), 1912, A., i, 295.
- Naphthathioxanthone**, and  $\beta$ -amino-, and its platinichloride (DAVIS and SMILES), 1910, T., 1298; P., 174.
- Naphthathioxin** and its dioxide (MAUTHNER), 1906, A., i, 448.  
*dioxide* (HILDITCH and SMILES), 1911, T., 415.
- Naphthathioxin**, chloro-, and its oxide and *dichloro-*, and oxide, nitrate of (CHRISTOPHER and SMILES), 1912, T., 714.
- Naphthathioxonium hydroxide**, salts of (NOLAN and SMILES), 1912, P., 276.
- 1:2-Naphthatriazine-7-sulphonic acid**, 5-hydroxy-, aminoaryl derivatives of, preparation of (CASSELLA & Co.), 1907, A., i, 451.
- Naphthaxanthone**, hydroxy-, and 3:4-*dihydroxy-*, and acetyl derivative of the latter (DUTTA and WATSON), 1912, T., 1243; P., 107.
- 2-hydroxy- (ULLMANN and KIPPER), 1905, A., i, 597.
- Naphthazarin** and its potassium salt (PERKIN and WILSON), 1903, T., 140.  
*perchlorate* (HOFMANN, METZLER, and LECHER), 1910, A., i, 187.
- Naphthazine**, *dihydroxy-*, and its diacetyl derivative (FISCHER and SCHINDLER), 1908, A., i, 221.
- $s$ - $\alpha\beta$ -Naphthazine** and 2-hydroxy- (ULLMANN and ANKERSMIT), 1905, A., i, 553.
- Naphthazines**, oxidation of, by chromic acid (FISCHER and SCHINDLER), 1908, A., i, 221.
- $\alpha\beta$ -Naphthazines** (FISCHER and STRAUS), 1908, A., i, 222.
- 2:3(1':2')-Naphthazino-1(or 4)-amino-anthraquinone** (SCHOLL, EBERLE, and TRITSCH), 1912, A., i, 143.
- Naphthene**, oxidation of, by air in presence of alkali (CHARITSCHKOFF), 1909, A., i, 896.
- Naphthenes**, formation of (ENGLER; ENGLER and ROUTALA), 1910, A., i, 2, 160.
- Naphthenic acid** as a test for copper and cobalt (CHARITSCHKOFF), 1910, A., ii, 549.
- Naphthenic acids** (PETROFF), 1911, A., i, 974.  
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- Naphthidine** and its hydrochloride (MEISENHEIMER and WITTE), 1904, A., i, 194.  
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- $\beta$ -Naphthiminazole**, benzoyl derivative (HELLER and KÜHN), 1904, A., i, 943.
- Naphthiminazoles**, isomerism of (MELDOLA), 1911, P., 98.  
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- $\alpha\beta$ -Naphthiminazole-8-sulphonic acid**, 6-hydroxy-, and its 2-derivatives (ATKIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION), 1907, A., i, 975.
- peri*-Naphthindandione. See Ketoperi-naphthindene, hydroxy-.
- $\beta$ -Naphthindigotin**, bromo-, preparation of (GESELLSCHAFT FÜR CHEMISCHE INDUSTRIE IN BASEL), 1908, A., i, 695.



- $\alpha$ -Naphthindole**, constitution of, and its disulphonic acid (PSCHORR and KUHTZ), 1905, A., i, 236.
- $\alpha$ -Naphthindolearsinic acid** (BOEHRINGER & SÖHNE), 1912, A., i, 523.
- Naphthindole-2:2-naphthathiophen** (FRIEDLÄNDER, VOROSCHTSCOFF, and ECKSTEIN), 1912, A., i, 295.
- $\beta$ -Naphthindoxy** (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1910, A., i, 337.
- Naphthionic acid**. See 1-Naphthylamine-4-sulphonic acid.
- Naphthisatins,  $\alpha$ - and  $\beta$** , derivatives of (C. and H. DREYFUS), 1904, A., i, 893.
- Naphthisatinnaphthalides,  $\alpha\alpha$ - and  $\beta\beta$** - (C. and H. DREYFUS), 1904, A., i, 832, 893.
- Naphtho-blue**, preparation and reactions of (NOELTING and PHILIPP), 1908, A., i, 295.
- Naphthoic acid, *di*- $\beta$ -hydroxy-** (FISCHER, FREUDENBERG, and HOESCH), 1911, A., i, 875.
- $\alpha$ -Naphthoic acid**, menthyl ester, and its rotation (RUPE, LOTZ, and SILBERBERG), 1903, A., i, 567.
- $\alpha$ -Naphthoic acid**, 8-amino-, *p*-toluenesulphonyl derivative (ULLMANN and CASSIRER), 1910, A., i, 201.
- 4-bromo- (HOUBEN), 1906, A., i, 21.
- hydroxy-. See Naphtholcarboxylic acids.
- 3:4-*dihydroxy*- (HELLER and RUHTENBERG), 1912, A., i, 358.
- dithio*- ( *$\alpha$ -naphthylcarbithionic acid*) and its salts (HOUBEN and POHL), 1906, A., i, 847.
- ethyl and methyl esters (HOUBEN and SCHULTZE), 1912, A., i, 6.
- $\beta$ -Naphthoic acid**, menthyl ester (RUPE and MÜNTER), 1910, A., i, 398.
- $\beta$ -Naphthoic acid**, 1:3-*diamino*-, and its ethyl ester (ATKINSON and THORPE), 1905, P., 305.
- bromimino- and chlorimino-, esters, (HILPERT), 1908, A., i, 830.
- 4-chloro-1-hydroxy-, and its compound with 4-chloro- $\beta$ -naphthaquinone-oxime (REISSERT), 1911, A., i, 368.
- hydroxy-. See Naphtholcarboxylic acids.
- Naphthoic acids**, reduced optically active (PICKARD and NEVILLE), 1905, T., 1763; P., 257; (PICKARD and YATES), 1906, T., 1101, 1484; P., 202, 244; 1909, T., 1011; P., 152.
- Naphthoic acids,  $\alpha$ - and  $\beta$** , esterification of, by means of alcoholic hydrogen chloride (KAILAN), 1907, A., ii, 853.
- Naphthoic acid hydrazide,  $\beta$ -hydroxy-**, and its benzylidene derivative (FRANZEN and EICHLER), 1908, A., i, 831.
- Naphthoic alcohol, hydroxy-**. See 1-Methyl- $\beta$ -naphthol, hydroxy-.
- Naphthol derivatives**, formation of, from papaverine and the binuclear quinones of the naphthalene series (DECKER), 1908, A., i, 806.
- Naphthol**, bromo- and chloro-, thio-benzoates of (TABOURY), 1904, A., i, 493.
- $\alpha$ -Naphthol**, bromination of (HEWITT, KENNER, and SILK), 1904, T., 1228; P., 126.
- chlorination of (KING), 1911, P., 266; (REISSERT), 1911, A., i, 368; (KAST), 1911, A., i, 439.
- condensation of, with aldehydes (SENIER and AUSTIN), 1907, T., 1233; P., 185.
- condensation of, with benzophenone chloride (CLOUGH), 1906, T., 773; P., 109; (SHRIMPTON), 1906, A., i, 659.
- condensation of, with benzylidene-aniline (MAYER), 1904, A., i, 785.
- 1-Naphthol**, 2-amino-, diacetyl and *N*-acetyl derivatives (GRANDMOUGIN), 1906, A., i, 717.
- 4-amino-, *N*-formyl derivative (GAESS), 1904, A., i, 809.
- 4- and 5-amino-, and their dibenzoyl derivatives (SACHS, APPENZELLER, HEROLD, MYLO, SCHÄDEL, and SUTTER), 1906, A., i, 830; (SACHS), 1906, A., i, 949.
- 8-amino-, and its acyl, nitroso-, and nitro-derivatives and 2:8-*diamino*- and its benzylidene and triacetyl derivatives (FICHTER and GAGEUR), 1906, A., i, 839.
- toluenesulphonyl derivative (FICHTER and KÜHNEL), 1910, A., i, 108.
- 4:5-*diamino*- and 4:8-*dinitro*- (GRAEBE and OSER), 1905, A., i, 54.
- 4:8-*diamino*-, acetyl derivatives of (FICHTER and GAGEUR), 1906, A., i, 840.
- 4-bromo-2-nitro- (DAHMER), 1904, A., i, 872.
- 4-chloro-, preparation of (KALLE & Co.), 1906, A., i, 659; (AKTIENGESELLSCHAFT FÜR ANILINFABRIKATION), 1912, A., i, 183.

**1-Naphthol**, 4-chloro-, 2-sulphide (CHRISTOPHER and SMILES), 1912, T., 717.

4-chloro-2-bromo- (KING), 1911, P., 267.

5-nitro-, and its acetate and benzoate, and 5-nitro-4-nitroso-, and its acetate (KAUFLER and BRÄUER), 1907, A., i, 799.

2:4-dinitro-, reactions of, and its ethers (ULLMANN and BRUCK), 1909, A., i, 21.

salts of (KORCZYŃSKI), 1909, A., i, 149.

5:4- and 8:4-nitronitroso- (GRAEBE and OSER), 1905, A., i, 54.

7:4-nitronitroso- (GRAEBE), 1905, A., i, 54.

**$\beta$ -Naphthol** and its derivatives, formation of, from  $\beta$ -naphthylamine (BADISCHE ANILIN- & SODA-FABRIK), 1903, A., i, 480.

molecular weight of, in solution in solid naphthalene (PERMAN and DAVIES), 1907, T., 1114; P., 162.

vapour pressures of solid solutions of, in naphthalene (SPERANSKY), 1904, A., ii, 237.

and naphthalene, crystals of, and of their mixtures (MIERS and ISAAC), 1908, T., 927; P., 125.

condensation of, with aldehydes and amines (BETTI and TORRICELLI); 1903, A., i, 480; (BETTI), 1903, A., i, 510.

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reaction between formaldehyde, hydroxylamine, and (BETTI), 1906, A., i, 653.

action of methylolchloroacetamide on (EINHORN), 1908, A., i, 612.

action of phosphorus pentachloride on (BERGER), 1906, A., i, 81.

excretion of, in the urine after the administration of small doses of naphthalene, benzonaphthol, and  $\beta$ -naphthol (EDLEFSEN), 1905, A., ii, 470.

compound of, with *p*-aminobenzophenone (TORREY and PORTER), 1911, A., i, 340.

and picric acid, combination of (PELET-JOLIVET and HENNY), 1909, A., i, 468.

molecular compounds of, with 2:3:5-trinitro-4-acetylaminophenol (MELDOLA and HAY), 1908, P., 210.

**$\beta$ -Naphthol**, derivatives, mobility of substituents in (HEWITT and MITCHELL), 1906, T., 1167; P., 170.

carbonic acid esters and diethylaminoethyl ether of (EINHORN and ROTH-LAUF), 1911, A., i, 704.

isomeric sulphides of (CRUMBLE, ROSS, and SMILES), 1912, T., 1146; P., 162.

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**2-Naphthol**, 1-amino-, *N*-benzoyl derivative of (AUWERS and EISENLOHR), 1908, A., i, 229.

*N*- and *O*-benzoyl and -anisoyl derivatives of (SCHEIBER and BRANDT), 1908, A., i, 726.

*N*-formyl derivative of (FISCHER and RÖMER), 1906, A., i, 541.

2-, 3-, 4-, 5-, 6-, 7-, and 8-amino-, mono- and di-acyl derivatives of (SACHS, APPENZELLER, HEROLD, MYLO, SCHÄDEL, and SUTTER), 1906, A., i, 829; (SACHS), 1906, A., i, 949.

4-amino-, and 1(or 3)-bromo-4-amino-, benzoyl derivatives, benzoates of (MEYER and WOLFSLEBEN), 1911, A., i, 631.

7-amino- and 7-chloro- (FRANZEN and DEIBEL), 1908, A., i, 833.

8-amino-, derivatives of (KEHRMANN and ENGELKE), 1909, A., i, 150.

and 1-nitroso-8-, and their acetyl derivatives (KEHRMANN and ENGELKE), 1909, A., i, 150.

bromo-, acetyl derivative of (HEWITT and MITCHELL), 1906, T., 1173; T., 171.

1:3-dibromo-4-amino-, acetyl derivative, and its acetate (MEYER and WOLFSLEBEN), 1911, A., i, 632.

6-bromo-1-nitro-, and its acetyl derivative (DAHMER), 1904, A., i, 872.

1-chloro-4-bromo-, preparation of (MELDOLA and DALE), 1906, P., 157.

$\alpha$ -nitro-, salts of (KORCZYŃSKI), 1909, A., i, 149.

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**Naphthols**, reaction of, with diazonium salts (ORTON and EVERATT), 1908, T., 1010; P., 118.

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amino-derivatives, preparation of (SACHS, APPENZELLER, HEROLD, MYLO, SCHÄDEL, and SUTTER), 1906, A., i, 829; (SACHS), 1906, A., i, 949.

azo-derivatives of (ORTON and EVERATT), 1908, T., 1020.

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**Naphthols**, amino-, preparation of *O*-acetyl derivatives of (FARBENFABRIKEN VORM. F. BAYER & Co.), 1909, A., i, 339.

5-amino- (SACHS), 1907, A., i, 914.  
nitroso-. See Naphthaquinone-oximes.

**$\beta$ -Naphtholaldaminic bases**, functions of (BETTI and TORRICELLI), 1903, A., i, 480.

**$\beta$ -Naphtholaldehyde**, compounds of, with *p*-aminobenzhydrol and *p*-aminobenzophenone (TORREY and PORTER), 1911, A., i, 340.  
hydrobromide (GOMBERG and CONE), 1910, A., i, 872.

**$\beta$ -Naphtholisoamylamine** and its picrate (BETTI and TORRICELLI), 1903, A., i, 480.

**$\beta$ -Naphtholamylbenzylideneamine** (BETTI), 1903, A., i, 510.

**$\alpha$ -Naphtholarsinic acid**. See Naphthylarsinic acid, 4-hydroxy-.

**$\beta$ -Naphtholazobenzene-4-arsinic acid** and its sodium salts (BARROWCLIFF, PYMAN, and REMFREY), 1908, T., 1897.

**Naphthol-*o*-azobenzoic acid** (ANSCHÜTZ and SCHMIDT), 1903, A., i, 56.

***p*- $\beta$ -Naphtholazobenzoic acid**, isobutyl ester (FARBENFABRIKEN VORM. F. BAYER & Co.), 1910, A., i, 381.

isopropyl ether (FARBENFABRIKEN VORM. F. BAYER & Co.), 1909, A., i, 921.

**$\beta$ -Naphthol-*o*-, -*m*-, and -*p*-azobenzoic acids**, and the nitriles of the *m*- and *p*-acids (v. NIEMENTOWSKI), 1903, A., i, 133.

**$\beta$ -Naphtholazo- $\alpha$ -naphthol-5-sulphonic acid** (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1904, A., i, 207.

**$\beta$ -Naphthol-1-azo- $\beta$ -naphthol-4'-sulphonic acid** and its sodium salts (ANILINFARBEN- & EXTRAKT-FABRIKEN VORM. J. R. GEIGY), 1907, A., i, 454.

**Naphthol-*p*-azo-*o*-nitrobenzaldehyde** (SACHS and KANTOROWICZ), 1906, A., i, 908.

**$\beta$ -Naphthol-6-azo-2-nitrophenol-4-sulphonic acid** (BADISCHE ANILIN- & SODA-FABRIK), 1903, A., i, 663.

**$\beta$ -*m*-2-Naphtholazophenylglutaric acid** and its barium salt (KÖTZ), 1907, A., i, 708.

**2- $\beta$ -Naphtholazoterephthalic acid**, methyl ester (KAUFMANN and WEISSEL), 1912, A., i, 865.

**$\beta$ -Naphtholbenzylamine** and its salts and acyl derivatives (BETTI and TORRICELLI), 1903, A., i, 480.  
action of aldehydes on (BETTI and FOÀ), 1903, A., i, 511.

**$\beta$ -Naphtholbenzylamineisopropylidene-carboxylic acid**, ethyl ester (BETTI and FOÀ), 1903, A., i, 512.

**$\beta$ -Naphtholbenzyl-cinnamylidene-, -furfurylidene-, -*iso*-propylidene-, and salicylidene-amines** (BETTI and FOÀ), 1903, A., i, 511.

**$\beta$ -Naphtholbisazodi-phenyl- and -tolyl-2:2'-disulphonic acids** and their barium salts (ELBS and WOHLFAHRT), 1903, A., i, 213.

**Naphtholcamphorides**,  $\alpha$ - and  $\beta$ -, reaction for distinguishing between, by means of piperonaldehyde (THIÉRY), 1907, A., ii, 723.

**1-Naphthol-2-carboxylic acid** and its derivatives, and the action of phosphorus pentachloride on (ANSCHÜTZ, WEBER, and RUNKEL), 1906, A., i, 508.

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**1-Naphthol-2-carboxylic acid**, 4-chloro- (WEIL and HEERDT), 1911, A., i, 979.

**1-Naphthol-4-carboxylic acid**, and 2-amino-, and 2-nitro- (HELLER and RUHTENBERG), 1912, A., i, 358.

**2-Naphthol-1-carboxylic acid** (TYMSTRA and EGGINK), 1906, A., i, 179.  
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**2-Naphthol-3-carboxylic acid**, condensation of, with benzaldehyde (FRIEDL), 1910, A., i, 741.



- 2-Naphthol-3-carboxylic acid**, 2-thio- (KALLE & Co.), 1912, A., i, 209.
- Naphtholcarboxylic acids**, action of sodium amalgam on (WEIL), 1911, A., i, 978.
- 1-Naphthol-3:6-disulphonic acid**, 8-amino-, disazo-dyes from (KALLE & Co.), 1904, A., i, 1065.
- polyazo-dyes from (SCHOELLKOPF, HARTFORD, & HANNA Co.), 1904, A., i, 954.
- 1-Naphthol-3:7-disulphonic acid**, 6-amino-, disazo-dyes from (OEHLER), 1905, A., i, 845.
- 2-Naphthol-3:6-disulphonic acid**, 1-nitroso-, sodium salt (MAY), 1911, P., 141.
- $\beta$ -Naphtholfurfurylcarbinylamine** and its hydrochloride (BETTI and TORRICELLI), 1903, A., i, 481.
- $\beta$ -Naphthol-*o*-hydroxybenzylamine** hydrochloride (BETTI and TORRICELLI), 1903, A., i, 481.
- $\beta$ -Naphtholmethylemine** and -hydroxylamine, dibenzoyl derivative (BETTI), 1906, A., i, 654.
- Naphtholnaphthaphenoxazone** (FISCHER and HEPP), 1903, A., i, 654.
- $\alpha$ -Naphtholphthalein**, a new indicator (SÖRENSEN and PALITZSCH), 1910, A., ii, 446.
- $\alpha$ -Naphtholresorcinolphthalein anhydride** and its acetyl derivative and methyl ether (FRIEDL, WEIZMANN, and WYLER), 1907, T., 1587.
- $\beta$ -Naphtholsulphonate**. See Asaprol.
- 1-Naphthol-3-sulphonic acid**, 5-amino-, preparation of (CASSELLA & Co.), 1908, A., i, 160.
- 6-amino-, disazo-dyes from (OEHLER), 1904, A., i, 809; 1905, A., i, 162.
- 1-Naphthol-5-sulphonic acid**, 6-amino- (KALLE & Co.), 1911, A., i, 630.
- 1-Naphthol-7-sulphonic acid**, 2:4-dinitro-, potassium salt. See Naphthol-yellow-S.
- 2-nitro-4-amino-, diazo-derivative of, 2-nitro-, and its copper salt, and 2-amino-, and its sodium salt and oxazine dye derivative (FINGER, BRETSCH, and ZEH), 1909, A., i, 471.
- 1-Naphthol-8-sulphonic acid**, cerium salts (ERDMANN and NIESZYTKA), 1908, A., i, 622; (ERDMANN and WIRTH), 1908, A., ii, 695.
- 1-Naphthol-8-sulphonic acid**, 5-amino- (BUCHERER and UHLMANN), 1909, A., i, 788.
- 2-Naphthol-6-sulphonic acid**, cerous salt (MORGAN and CAHEN), 1907, T., 476.
- 2-Naphthol-8-sulphonic acid**, 1-bromo-, sodium salt (SMITH), 1906, T., 1511; P., 236.
- Naphtholsulphonic acids**, amino-, affinity constants of, as determined by the aid of methylorange (VELEY), 1907, T., 1246; P., 179.
- diazoamino-compounds of (PAUL), 1904, A., i, 537.
- 1:2- and 2:1-amino-, preparation of arylsulphonyl derivatives of (AKTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION), 1908, A., i, 416.
- $\alpha$ -Naphtholsulphonic acids**, constitution of colouring-matters derived from (GATTERMANN and LIEBERMANN), 1912, A., i, 1038.
- $\beta$ -Naphtholsulphonic acids**, sodium salts, mercury derivatives of (AKTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION), 1904, A., i, 132.
- $\beta$ -Naphtholsulphonic acids**, 1-amino-, diazotisation of (GESELLSCHAFT FÜR CHEMISCHE INDUSTRIE IN BASEL), 1907, A., i, 987; (KALLE & Co.), 1908, A., i, 842.
- azo-compounds from (CHEMISCHE FABRIKEN VORM. WEILER-TERMEER), 1905, A., i, 161.
- Naphthol yellow-S** (FINGER, BRETSCH, and ZEH), 1909, A., i, 470.
- and its salts (KNECHT and HIBBERT), 1904, A., i, 872.
- 3-Naphthonitrile**, 2:4-dinitro-1-hydroxy- (BORSCHKE and GAHRTZ), 1906, A., i, 957.
- $\beta$ -Naphthoxazines** containing mixed aldehydic and ketonic radicles (BETTI and FOÀ), 1903, A., i, 511.
- $\beta$ -Naphthoxazinebenzylidenemethyleneamine** (BETTI and FOÀ), 1903, A., i, 511.
- Naphthoxazoles**,  $\alpha$ - and  $\beta$ -, and their derivatives (FISCHER and RÖMER), 1906, A., i, 541.
- Naphthoxazone**, diamino-, and its disulphonic acid (NIETZKI and BECKER), 1907, A., i, 978.
- $\beta$ -Naphthoxide**, cerium (CHEMISCHE FABRIK AUF AKTIEN VORM. E. SCHERING), 1910, A., i, 164.
- sodium, preparation of (TYMSTRA and EGGINK), 1906, A., i, 179.

- Naphthoxides**,  $\alpha$ - and  $\beta$ -, sodium, reactions of, with naphthyl and guaia-cyl esters of  $\alpha$ -bromo-fatty acids (BISCHOFF, GUSSEW, WIELOWIEYSKI, and WILLUMS), 1907, A., i, 34.
- 1-Naphthoxyacetic acid**, 8-amino-, acetyl derivative, and its cupric salt (FICHTER and KÜHNER), 1910, A., i, 107.
- 2-Naphthoxyacetic acid**,  $\alpha$ -nitro-, preparation and reduction of (LEES and SHEDDEN), 1903, T., 758; P., 132.
- 1-Naphthoxyanthraquinones**,  $\alpha$ - and  $\beta$ - (*erythroxyanthraquinone naphthyl ethers*) (LAUBE), 1906, A., i, 598; (DECKER and LAUBE), 1906, A., i, 689.
- $\beta$ -Naphthoxybenzoic acid** (ULLMANN and ZLOKASOFF), 1905, A., i, 598; (AKTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION), 1905, A., i, 780.
- $\alpha$ -Naphthoxy-*n*- and -*iso*-butyric, -propionic, and -isovaleric acids**,  $\alpha$ - and  $\beta$ -,  $\alpha$ - and 8-naphthyl esters (BISCHOFF, WIELOWIEYSKI, and WILLUMS), 1907, A., i, 35.
- 5-Naphthoxy-2-ethylthiol-4-naphthoxy-methyl-1:6-dihydro-6-pyrimidone** (JOHNSON and HILL), 1912, A., i, 913.
- 2-Naphthoxyl chloride**, 3-hydroxy-, acetyl derivative, and amide and anilide (ANSCHÜTZ and GRAFF), 1909, A., i, 665.
- 2- $\beta$ -Naphthoxy-5-methoxybenzoic acid** (ULLMANN and KIPPER), 1905, A., i, 596.
- 5-Naphthoxy-4-naphthoxymethyltetrahydro-6-pyrimidone**, 2-thio- (JOHNSON and HILL), 1912, A., i, 913.
- $\alpha$ -1-Naphthoxypropane**,  $\gamma$ -chloro- $\beta$ -hydroxy- (MARLE), 1912, T., 317.
- Naphthoxythiophen** (KALLE & Co.), 1912, A., i, 208.
- $\beta$ -Naphthoylacetic acid**, ethyl ester, and its hydrazone (WEIZMANN and FALKNER), 1905, P., 307; 1906, T., 122.
- $\beta$ -Naphthoylacetoacetic acid**, ethyl ester (WEIZMANN and FALKNER), 1905, P., 307; 1906, T., 123.
- Naphthoylbenzoic acid**, isomeric methyl esters (GOLDSCHMIEDT and LIPSCHITZ), 1905, A., i, 133.
- 2-Naphthoylbenzoic acid**, 2'- and 4(5)-amino-, and 2'- and 4(5)-chloro- (BADISCHE ANILIN- & SODA-FABRIK), 1911, A., i, 885.
- $\beta$ -hydroxy- (BÜNZLY and DECKER), 1905, A., i, 884.
- 2- $\alpha$ -Naphthoylbenzoic acid** (PICKLES and WEIZMANN), 1904, P., 201.
- and its esters, anhydride, and acid amide (GRAEBE), 1905, A., i, 704.
- 2- $\alpha$ -Naphthoylbenzoic acid**, 4-chloro- (HELLER and GRÜNTAL), 1912, A., i, 357.
- 3:6-*di*- and 3:4:5:6-*tetra*-chloro-, and their methyl esters (GRAEBE and PETER), 1905, A., i, 704.
- 2- $\beta$ -Naphthoylbenzoic acid** and its chlorobromo-, hydroxybromo-, and hydroxynitro-derivatives (ORCHARDSON and WEIZMANN), 1905, P., 307; 1906, T., 115.
- 2- $\beta$ -Naphthoylbenzoic acid**, 3(6)- and 4(5)-amino-, and -nitro-1'-hydroxy- (BENTLEY, FRIEDL, and WEIZMANN), 1907, T., 1590; P., 215.
- 4'-amino-1'-hydroxy-, 4'-amino-1':4-(or 5)-*dihydroxy*-, 6'(?)-bromo-1':4-(or 5)-*dihydroxy*-, and 4(or 5):1'- and 1':5'-*dihydroxy*- (BENTLEY, FRIEDL, THOMAS, and WEIZMANN), 1907, T., 416.
- 3-chloro- (HELLER and GRÜNTAL), 1912, A., i, 357.
- 4'-chloro-1'-hydroxy-, and *o*-4-nitroso-1-hydroxy-, and sodium salt of the latter (ANILINFARBEN & EXTRACT-FABRIKEN VORM. J. R. GEIGY), 1910, A., i, 745, 746.
- 3:6-*dichloro*-1'-hydroxy-, 3:6-*dichloro*-4'-bromo-1'-hydroxy-, and 3:4:5:6-*tetrachloro*-1'-hydroxy-, and 3:4:5:6-*tetrachloro*-4'-bromo-1'-hydroxy-, and their sodium salts (HARROP, NORRIS, and WEIZMANN), 1909, T., 282.
- 1-hydroxy-, and its esters, salts, and acetyl derivative (DEICHLER and WEIZMANN), 1903, A., i, 349.
- Naphthoylboric acid**, *tri*- $\alpha$ - and - $\beta$ -hydroxy- (COHN), 1911, A., i, 641.
- 2-Naphthoylcyanoacetic acid**, 3-hydroxy-, acetyl derivative, ethyl ester (ANSCHÜTZ and GRAFF), 1909, A., i, 665.
- $\beta$ -Naphthoyldiethylacetic acid** (FREUND and FLEISCHER), 1910, A., i, 491.
- Naphthoylnaphthoic acid**, hydroxy- (FISCHER and HOESCH), 1912, A., i, 860.
- 4-Naphthoxyloxybenzoic acid**,  $\alpha$ -hydroxy- (FISCHER, FREUDENBERG, and HOESCH), 1911, A., i, 875; (FISCHER and HOESCH), 1912, A., i, 859.
- $\alpha$ -Naphthoyltetrahydroquinoline** (v. BRAUN), 1905, A., i, 236.
- Naphthyl ethers** (ULLMANN and SPONAGEL), 1907, A., i, 38.
- arsenite (LANG, MACKEY, and GORTNER), 1908, T., 1370; P., 151.
- $\alpha$ -Naphthyl benzyl selenide** (TABOURY), 1906, A., i, 834.

**$\alpha$ -Naphthyl** benzyl and methyl sulphides (TABOURY), 1905, A., i, 57.  
 ethyl ether, 2-amino-, and its acetyl derivative (NOELTING, GRANDMOUGIN, and FREIMANN), 1909, A., i, 442.  
 4-bromo- and chloro-derivatives (AUTENRIETH and MÜHLINGHAUS), 1907, A., i, 32.  
 4-bromo-2-nitro- (MELDOLA and LANE), 1904, T., 1605.  
 4:8-dinitro- (GRAEBE and OSER), 1905, A., i, 54.  
 magnesium bromide (ACREE), 1904, A., i, 360.  
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 mercaptan, 4-amino-, and its salts and derivatives (ZINCKE and SCHÜTZ), 1912, A., i, 257.  
 methyl ether, 2-amino-, and its acetyl derivative (NOELTING, GRANDMOUGIN, and FREIMANN), 1909, A., i, 442.  
 4-amino-, acetyl derivative, and 4-nitro- (VOROSCHTSOFF), 1911, A., i, 341; 1912, A., i, 145.  
 8-amino-, and its diazotisation and salts, and acetyl derivative and its bromo-compound (FICHTER and GAGEUR), 1906, A., i, 841.  
 5-nitro-8-amino-, 5-nitro-, and 8-amino-, acetyl derivative (FICHTER and KÜHNEL), 1910, A., i, 108.  
 4-nitroso- (MEISENHEIMER), 1907, A., i, 862.  
 methyl sulphide, 4-amino-, 3-bromo-, 3-chloro-, and their derivatives (ZINCKE and SCHÜTZ), 1912, A., i, 258.  
 o-nitrophenyl sulphide, 2-amino-, and its derivatives (ZINCKE and FARR), 1912, A., i, 764.  
 2:4-di-o-nitrophenyl disulphide, 1-amino-, and its derivatives (ZINCKE and FARR), 1912, A., i, 764.  
 2:2'-oxide and its picrates (ECKSTEIN), 1905, A., i, 885.  
 trimethylene ether (GATTERMANN), 1908, A., i, 35.  
 **$\beta$ -Naphthyl** alcohol, 4-nitro-1-hydroxy-, methylene ether and methylene ether ester (BORSCHKE and BERKHOUT), 1904, A., i, 416.  
 allyl ether (CLAISEN and EISLER), 1912, A., i, 965.  
 arabinoside (RYAN and EBRILL), 1904, A., i, 223.  
 ethyl ether,  $\alpha$ -amino-, compound of trinitrobenzene and (SUDBOROUGH and BEARD), 1910, T., 787.

**$\beta$ -Naphthyl** methyl ether, 1-amino-, and its acetyl derivative, and 1:6-dinitro- (CHARRIER and FERRERI), 1912, A., i, 813.  
 5-amino-, *N*-acetyl derivative of (SACHS, APPENZELLER, HEROLD, MYLO, SCHÄDEL, and SUTTER), 1906, A., i, 830.  
 1-bromo- (AUTENRIETH and MÜHLINGHAUS), 1907, A., i, 32.  
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 1:6-dinitro- (GRAEBE), 1905, A., i, 54.  
 trimethylene ether and its dialdehyde (GATTERMANN), 1908, A., i, 35.  
**Naphthyl group**, migration of, in iodo-hydrins of the naphthalene series (TIFFENEAU and DAUDEL), 1908, A., i, 972.  
 **$\alpha$ -Naphthyl**-acetone and -acetaldehyde, and their semicarbazones (TIFFENEAU and DAUDEL), 1908, A., i, 973.  
 **$\alpha$ -Naphthyl**acetyl chloride (BADISCHE ANILIN- & SODA-FABRIK), 1911, A., i, 464.  
 **$\beta$ -1-Naphthyl**acrylic acid, 2-chloro-, and its salts and derivatives (SACHS and BRIGL), 1911, A., i, 720.  
 **$\beta$ -2-Naphthyl**acrylic acid (GATTERMANN), 1912, A., i, 985.  
 preparation of (MONIER-WILLIAMS), 1906, T., 277; P., 22.  
 **$\beta$ -1- and -2-Naphthyl**acrylic acids,  $\alpha$ -amino-, benzoyl derivatives, and their lactimides (KIKKOJI), 1911, A., ii, 909.  
 **$\beta$ -1- and -2-Naphthyl**alanines and their derivatives (KIKKOJI), 1911, A., ii, 910.  
**Naphthyl**allyl-carbamide and -thiocarbimide, 8-amino- (SACHS), 1909, A., i, 432.  
 **$\alpha$ -Naphthyl**amides of fatty sulphonic acids, abnormality in melting points of (DUGUET), 1906, A., i, 475.  
 **$\alpha$ -Naphthyl**amine, freezing points of mixtures of, with the dihydric phenols (PHILIP and SMITH), 1905, T., 1735; P., 255.  
 condensation of, with aldehydes (SENIER and AUSTIN), 1907, T., 1233; P., 185.  
 condensation of, with benzylidene-aniline (MAYER), 1904, A., i, 784.  
 interaction of, with nitrobenzene in presence of alkali (WOHL), 1904, A., i, 155.  
 compounds of  $\alpha$ - and  $\beta$ -naphthol and (DOLLINGER), 1910, A., i, 701.



- $\alpha$ -Naphthylamine**, *N*-acetyl derivative, 3:8-dibromo- and chloronitro- (VERDA), 1903, A., i, 21.
- N*-acetyl and *N*-formyl derivatives, *N*-chloro- (SLOSSON), 1903, A., i, 476.
- N*-alkylated, derivatives of (MELDOLA), 1906, T., 1434; P., 245.
- o*-hydroxyazo-derivatives of (BADISCHE ANILIN- & SODA-FABRIK), 1905, A., i, 250.
- hydrogen tartrate, rotatory power of (MINGUIN and WOHLGEMUTH), 1909, A., i, 11.
- picrates (SUIDA), 1908, A., i, 523.
- 1-Naphthylamine**, 4-bromo-, compound of trinitrobenzene and (SUDBOROUGH and BEARD), 1910, T., 782.
- hydrobromide of the acetyl derivative (ZINCKE and SCHÜTZ), 1912, A., i, 258.
- 4-bromo-2-nitro-, diazotisation of (MELDOLA and DALE), 1906, P., 156.
- 8-chloro-, and its sulphonic acids (BADISCHE ANILIN- & SODA-FABRIK), 1904, A., i, 396.
- hydroxy-. See  $\alpha$ -Naphthol, amino-.
- 4-iodo- (MORGAN and GODDEN), 1910, T., 1717.
- 8-iodo-, and its hydrochloride (SCHOLL, SEER, and WEITZENBÖCK), 1910, A., i, 616.
- 5-nitro-, and its acetyl and formyl derivatives, and 4:5-*d*-nitro- (BADISCHE ANILIN- & SODA-FABRIK), 1904, A., i, 154.
- 5- and 8-nitro-, preparation of (MORGAN and MICKLETHWAIT), 1906, T., 7.
- $\beta$ -Naphthylamine** and its derivatives, conversion of, into  $\beta$ -naphthol and its derivatives (BADISCHE ANILIN- & SODA-FABRIK), 1903, A., i, 480.
- aryl-substituted, preparation of, by the sulphite method (BUCHERER and STOHMANN), 1904, A., i, 395; 1905, A., i, 585.
- condensation of, with aldehydes and ketones (ROTHENFUSSE), 1908, A., i, 52.
- chloro-*N*-acetyl (JOHNSON), 1903, A., i, 580.
- N*-formyl derivative, *N*-chloro- (SLOSSON), 1903, A., i, 476.
- 2-Naphthylamine**, 1-bromo-, and 1:6-*di*-bromo-, compounds of trinitrobenzene and (SUDBOROUGH and BEARD), 1910, T., 782.
- 2-Naphthylamine**, 1-bromo- and 1-chloro-, condensation of, with methylene chloride (SENIER and AUSTIN), 1907, P., 300; 1908, T., 63.
- $\alpha$ -nitro-, compound of trinitrobenzene and (SUDBOROUGH and BEARD), 1910, T., 785.
- Naphthylamines**, cryoscopy of (BUGUET), 1910, A., ii, 826.
- acetylation of some (CYBULSKY), 1903, A., i, 775.
- condensation of, with nitro-derivatives of benzyl chloride (DARIER and MANNASSEWITCH), 1903, A., i, 82.
- compounds of, with nickel thiocyanate (GROSSMANN and SCHÜCK), 1906, A., i, 630.
- compounds of, with trinitrobenzene and the influence of substituents on (SUDBOROUGH and PICTON), 1906, T., 583; P., 84.
- alkylated, compounds of, with *s*-trinitrobenzene (HIBBERT and SUDBOROUGH), 1903, T., 1334; P., 225.
- arylated, behaviour of, with formaldehyde and with nitrous acid (BUCHERER and SEYDE), 1907, A., i, 344.
- diazoamino-compounds from (VIGNON and SIMONET), 1905, A., i, 397.
- preparation of derivatives of (LE SUEUR), 1911, T., 827; P., 104.
- acetyl derivatives. See Aceto- $\alpha$ - and - $\beta$ -naphthalides.
- salts of (HILDITCH), 1911, T., 236.
- telluri-haloids of (GUTBIER, FLURY, and EWALD), 1912, A., i, 689.
- $\alpha$ -Naphthylamine-2-azobenzene-4'-sulphonic acid**, 4-bromo-, and its reduction (MORGAN, MICKLETHWAIT, and WINFIELD), 1904, T., 752.
- 1-Naphthylamine-4:7-disulphonic acid**, preparation of (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1910, A., i, 240.
- $\alpha$ -Naphthylaminesulphonic acid**, 2:4-*di*-chloro-, and its salts, and an *o*-hydroxyazo-dye from (BADISCHE ANILIN- & SODA-FABRIK), 1904, A., i, 953.
- $\alpha$ -Naphthylamine-2-sulphonic acid** (RUYTER DE WILDT), 1904, A., i, 572.
- solubility of, in water (DOLIŃSKI), 1905, A., i, 524.
- 1-Naphthylamine-4-sulphonic acid** (*naphthionic acid*), solubility of, in water (DOLIŃSKI), 1905, A., i, 524.
- acylation of (SCHROETER and RÖSING), 1906, A., i, 416.
- cerous salt (MORGAN and CAHEN), 1907, T., 477.

**1-Naphthylamine-8-sulphonic acid**, action of phosphorus oxychloride on (DANNERH), 1907, A., i, 909.

**Naphthylaminesulphonic acids**, azo-compounds from (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1904, A., i, 207; (BADISCHE ANILIN- & SODA-FABRIK), 1904, A., i, 459.

**$\alpha$ -Naphthylaminesulphonic acids**, constitution of colouring-matters derived from (GATTERMANN and LIEBERMANN), 1912, A., i, 1038.

**1-Naphthylamine-2:4:7-trisulphonic acid**, preparation of (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1910, A., i, 240.

**2-Naphthylamine-3:6:8-trisulphonic acid**, preparation of (KALLE & Co.), 1907, A., i, 313.

**$\beta$ -Naphthylaminoacetamide** (LUMIÈRE and PERRIN), 1903, A., i, 832.

**Naphthylaminoacetonitriles**,  $\alpha$ - and  $\beta$ -, and the phenyl derivative of the  $\alpha$ -compound (KNOEVENAGEL, SCHLEUSNER, and KLUCKE), 1904, A., i, 989.

**1-Naphthylaminoanthraquinone**,  $o$ -amino-, and its  $N$ -acetyl derivative (LAUBÉ and KÖNIG), 1909, A., i, 55.

**1-Naphthylamino-1-anthraquinone-2-carboxyl chloride** (BADISCHE ANILIN- & SODA-FABRIK), 1911, A., i, 980.

**1-Naphthylamino-1-anthraquinone-2-carboxylic acid** (BADISCHE ANILIN- & SODA-FABRIK), 1911, A., i, 980.

**1- $\beta$ -Naphthylaminoanthraquinone-2-carboxylic acid**, and nitro-, and their salts (BADISCHE ANILIN- & SODA-FABRIK), 1912, A., i, 980.

**2- $\alpha$ - and - $\beta$ -Naphthylaminobenzophenones**, 3:5-dinitro- (ULLMANN and BROIDO), 1906, A., i, 189.

**$\beta$ -Naphthylaminobenzylacetophenone** (MAYER), 1905, A., i, 215.

**$\beta\beta$ -Naphthylaminobenzylacetylacetone** (RUHEMANN and WATSON), 1904, T., 1175; P., 175.

**Naphthylaminoisobutyronitriles** and their amides,  $\alpha$ - and  $\beta$ - (BUCHERER and GROLÉE), 1906, A., i, 350.

**$\alpha$ -Naphthylaminochlorophenylphenazonium nitrate** (BALLS, HEWITT, and NEWMAN), 1912, T., 1850.

**$\alpha$ -1- and -2-Naphthyl- $o$ -aminocinnamic acids** (WEITZENBÖCK and LIEB), 1912, A., i, 548.

**2- $\beta$ -Naphthylaminodihydro-6-pyrimidine** (JOHNSON, STOREY, and MCCOLLUM), 1908, A., i, 838.

**$\alpha$ -Naphthylaminodinaphthaxanthen** (ROBYN), 1905, A., i, 608.

**Naphthylaminodiphenylguanidines**.

$\alpha$ - and  $\beta$ - (BUSCH and BRANDT), 1907, A., i, 260.

**$\alpha$ -Naphthylaminoethyl cyanide** (MARON), 1903, A., i, 826.

**6- $\beta$ -Naphthylamino-3-methoxybenzoic acid** (ULLMANN and KIPPER), 1905, A., i, 597.

**Naphthylaminomethyl  $n$ -butyl ketone** (ZINK), 1903, A., i, 172.

**$\alpha$ - and  $\beta$ -Naphthylaminomethyleneacetic acids**, ethyl esters of (DAINS and BROWN), 1909, A., i, 781.

**$\alpha$ - and  $\beta$ -Naphthylaminomethyleneacetoacetyl- $\alpha$ - and - $\beta$ -naphthylamide** and dibromide of  $\alpha$ -compound (DAINS and BROWN), 1909, A., i, 781.

**$\alpha$ - and  $\beta$ -Naphthylaminomethyleneacetylacetone** (DAINS and BROWN), 1909, A., i, 782.

**$\beta$ -Naphthylaminomethylenebenzyl cyanide** (DAINS and BROWN), 1909, A., i, 782.

**$\beta$ -Naphthylamino- $d$ -methylenecamphor** (POPE and READ), 1909, T., 178; P., 19.

**$\alpha$ - and  $\beta$ -Naphthylaminomethylene-cyanoacetic acids**, ethyl esters (DAINS and BROWN), 1909, A., i, 782.

**$\alpha$ -Naphthylaminomethylenedeoxybenzoin** (DAINS and BROWN), 1909, A., i, 782.

**4- $\beta$ -Naphthylaminomethylene-1:3-diphenyl-5-pyrazolone** (DAINS and BROWN), 1909, A., i, 782.

**$\alpha$ - and  $\beta$ -Naphthylaminomethylenemalononic acid**,  $\alpha$ - and  $\beta$ -naphthylamides of the ethyl esters of, bromo-derivative of the  $\alpha$ -compound, and anilide (DAINS and BROWN), 1909, A., i, 781.

**4- $\alpha$ - and - $\beta$ -Naphthylaminomethylene-1-phenyl-3-methyl-5-pyrazolone** (DAINS and BROWN), 1909, A., i, 782.

**$\alpha$ -Naphthyl aminomethyl ketone platini-chloride** (LISTER and ROBINSON), 1912, T., 1308.

**Naphthyl $\delta$ aminonaphthaphenazine**, amino- (NIETZKI), 1904, A., i, 1063.

**$\alpha$ -2- $\beta$ -Naphthylaminonaphthyl $\delta$ - $\beta$ -naphthylamine**. See Tri- $\beta$ -naphthyl-1:2-naphthylenediamine.

**5- $\alpha$ -Naphthylamino-1- $\beta$ -naphthyl-3-methylpyrazole** (MICHAELIS and DANZFUSS), 1905, A., i, 481.

**2-Naphthylamino-3:5- $d$ -nitrobenzoic acids**,  $\alpha$ - and  $\beta$ - (PUGGOTTI and LUNINI), 1904, A., i, 316.

**$\alpha$ -1-Naphthylaminopalmitic acid** (LE SUEUR), 1911, T., 832.

**$\alpha$ -2-Naphthylaminopalmitic acid** (LE SUEUR), 1911, T., 829.

- $\beta$ -Naphthylaminophenylacetic acid and amide (BUCHERER and GROLÉE), 1906, A., i, 351.
- Naphthylaminophenyl*di*nitro-*m*-phenylenediamine and its tetra-aminobenzene derivative (NIETZKI and VOLLENBRUCK), 1904, A., i, 1063.
- Naphthylaminopinacol and its oxime (WIECHOWSKI), 1905, A., i, 708.
- 2- $\alpha$ - and - $\beta$ -Naphthylaminopyridines (FISCHER and MERL), 1903, A., i, 52.
- $\alpha$ -1-Naphthylaminostearic acid (LE SUEUR), 1911, T., 831; P., 104.
- $\alpha$ -2-Naphthylaminostearic acid (LE SUEUR), 1911, T., 828.
- $\beta$ -Naphthylaminosuccino- $\beta$ -naphthylimide and nitroso- (WARREN and GROSE), 1912, A., i, 961.
- 1- $\beta$ -Naphthylamino-4-*p*-tolylthiolanthraquinone-2-carboxylic acid (BADISCHE ANILIN- & SODA-FABRIK), 1912, A., i, 980.
- $\alpha$ - and  $\beta$ -Naphthylammonium osmichloride (GUTBIER and WALBINGER), 1911, A., i, 191.
- platinibromide (GUTBIER, BAURIEDL, and OBERMAIER), 1911, A., i, 33.
- $\alpha$ - and  $\beta$ -Naphthyl *tert*-amyl ketones and their oximes (VOLMAR), 1910, A., i, 393.
- Naphthylaniline-2-carboxylic acid, sulphonic acids of (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1904, A., i, 51.
- Naphthylaniline-2-carboxylic acids,  $\alpha$ - and  $\beta$ - (*naphthylantranilic acids*) (ULLMANN and RASETTI), 1907, A., i, 846.
- preparation of (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1904, A., i, 159.
- 1- $\beta$ -Naphthylanilopyrine. See 2:5-Phenylimino-1- $\beta$ -naphthyl-2:3-dimethylpyrazole.
- $\alpha$ - and  $\beta$ -Naphthylanthramine (PADOVA), 1909, A., i, 655.
- Naphthyl anthraquinonyl ketone (SCHOLL), 1912, A., i, 196.
- Naphthylarsinic acid, amino- and hydroxy- (O. and R. ADLER), 1908, A., i, 492.
- 4-hydroxy- ( *$\alpha$ -naphtholarsinic acid*), preparation, and sodium salt of (ADLER), 1909, A., i, 448.
- Naphthyl-4-arsinic acid, 1-amino- (BENDA and KAHN), 1908, A., i, 592.
- Naphthylazoacetoacetic acids,  $\alpha$ - and  $\beta$ -, ethyl esters, benzoylhydrazones of (BÜLOW and SCHAUB), 1908, A., i, 705.
- Naphthylazoformaldoximes,  $\alpha$ - and  $\beta$ - (BUSCH and WOLBRING), 1905, A., i, 494.
- Naphthyl-4-azoimide, benzoyl-1-amino- (MORGAN and COUZENS), 1910, T., 1697.
- Naphthylazoimides,  $\alpha$ - and  $\beta$ -, and their nitro-derivatives (FORSTER and FIERZ), 1907, T., 1942; P., 258.
- $\alpha$ -Naphthylazo- $\alpha$ -naphthylhydrazinesulphonic acid (TRÖGER and WESTERKAMP), 1910, A., i, 209.
- Naphthylazo-. See also Naphthalene-azo-, and Naphtholazo-.
- $\alpha$ -Naphthylbenzoin, synthesis of (ACREE), 1904, A., i, 743.
- Naphthyl-2-benzotriazole, 4-hydroxy- (ELBS and KEIPER), 1903, A., i, 662.
- $\alpha$ -Naphthyl benzoylaminomethyl ketone (LISTER and ROBINSON), 1912, T., 1307.
- 1- $\beta$ -Naphthylbenzsulphontriazine (ULLMANN and GROSS), 1910, A., i, 887.
- $\alpha$ -Naphthylbenzylamine and its hydrochloride (BUSCH and LEEFHELM), 1908, A., i, 152.
- $\beta$ -Naphthylbenzylamine, aldehydic derivatives, relation between chemical constitution and rotatory power of (BETTI), 1907, A., ii, 726.
- $\beta$ -Naphthyl- $\psi$ -benzylthiocarbamide, cyano- (FROMM and WELLER), 1908, A., i, 703.
- $\beta$ -Naphthyl-*di*- and -*tri*-bromomethylsulphones (TRÖGER and HILLE), 1905, A., i, 337.
- $\beta$ -Naphthylisobutylene (BEHREND and KLINCKHARD), 1911, A., i, 294.
- $\alpha$ - and  $\beta$ -Naphthyl *tert*-butyl ketones, and their derivatives (VOLMAR), 1910, A., i, 393.
- $\beta$ -Naphthylbutyrolactone (BEHREND, LUDEWIG, and KLINCKHARD), 1911, A., i, 289.
- $\beta$ -Naphthylcamphoformeneamine and its carboxylic acid,  $\beta$ -naphthylamine salt (TINGLE and HOFFMAN), 1905, A., i, 799.
- $\alpha$ -Naphthylcamphoformeneaminecarboxylic acid,  $\alpha$ -naphthylamine salt (TINGLE and HOFFMAN), 1905, A., i, 799.
- $\alpha$ -Naphthylcarbamic acid, esters of (NEUBERG and KANSKY), 1909, A., i, 690; (NEUBERG and HIRSCHBERG), 1910, A., i, 694.
- $\beta$ -Naphthylcarbamic hydrazide and its hydrochloride and acetophenone and *o*-hydroxybenzylidene compounds (BORSCHKE), 1905, A., i, 306.



- $\alpha$ -Naphthylcarbamidoacetaldehyde** (NEUBERG and HIRSCHBERG), 1910, A., i, 694.
- $s$ -1-Naphthylcarbamido-1:3:4-triazole** (BÜLOW), 1909, A., i, 681.
- $\alpha$ -Naphthylcarbamido- $d$ -glucosamine** (NEUBERG and HIRSCHBERG), 1910, A., i, 694.
- Naphthylcarbimide**, reactions of (VALLÉE), 1908, A., i, 976.
- $\alpha$ -Naphthylcarbimide**, reactions of, with amino-acids (NEUBERG and MANASSE), 1905, A., i, 647.
- compounds of, with amino-acids (NEUBERG and ROSENBERG), 1907, A., i, 1029.
- $\alpha$ -Naphthylcarbithionic acid**. See  $\alpha$ -Naphthoic acid, dithio-.
- Naphthyl-3-chloro-4:6-dinitroaniline**, amino-, and its acetyl derivative (NIETZKI and VOLLENBRUCK), 1904, A., i, 1062.
- $\alpha$ -Naphthyltrichlorosilicane** (MELZER), 1908, A., i, 967.
- $\alpha$ -Naphthyleinchotoxol** (COMANDUCCI and MELONE), 1909, A., i, 409.
- salts and derivatives of (COMANDUCCI), 1910, A., i, 583.
- $\beta$ -Naphthylisocrotonic acid** (BEHREND, LUDEWIG, and KLINCKHARD), 1911, A., i, 289.
- Naphthyl-4-cyanoacetylcarbamide**, 1:2-dihydroxy- (SACHS, BERTHOLD, and ZAAK), 1907, A., i, 426.
- Naphthyldiacetonitriles**,  $\alpha$ - and  $\beta$ - (v. MEYER and SCHUMACHER), 1908, A., i, 909.
- $\alpha$ -Naphthyldiguanide** and its salts (COHN), 1911, A., i, 929.
- $\alpha$ -Naphthyldihydrocarvone** and its oxime (SZELINSKI), 1909, A., i, 246.
- $\alpha$ -Naphthyldimethylamine**, 2:4-dinitro- (ULLMANN and BRUCK), 1909, A., i, 22.
- $\beta$ -Naphthyldi-methyl- and -ethyl-amine**  $d$ -camphorsulphonates, rotation of (REYCHLER), 1903, A., i, 24.
- $\alpha$ -Naphthyldimethylcarbinol** (SCHURAKOVSKY), 1910, A., i, 169.
- Naphthyldimethylsulphine** platini-chlorides,  $\alpha$ - and  $\beta$ - (KEHRMANN and DUTTENHÖFER), 1906, A., i, 949.
- $\beta$ -Naphthyldimethylsulphine hydroxide**, salts of (KEHRMANN and SAVA), 1912, A., i, 968.
- Naphthyldinaphthylenemethyl chloride** (SCHMIDLIN and MASSINI), 1909, A., i, 563.
- $\alpha$ -Naphthyldioxindole** (KOHN), 1910, A., i, 697.
- $\alpha\beta$ -Naphthylene- $\psi$ -azimino- $\beta$ -anthraquinonyl** (CHEMISCHE FABRIK GREISHEIM-ELEKTRON), 1912, A., i, 144, 588.
- $o$ -Naphthylenebis-1-aminoanthraquinone** (LAUBÉ and KÖNIG), 1909, A., i, 55.
- Naphthylene-2:7-bisazoimide**. See 2:7-Bistriazonaphthalene.
- 1:3-Naphthylencarbamide-6-sulphonic acid**, preparation of (KALLE & Co.), 1904, A., i, 346.
- 1:2-Naphthylenediamine**, 4-bromo- (MORGAN and GODDEN), 1910, T., 1710.
- 1:3-Naphthylenediamine** and its derivatives, formation of, from  $o$ -toluonitrile (ATKINSON, INGHAM, and THORPE), 1907, T., 578; P., 76.
- and its diacetyl derivative (ATKINSON and THORPE), 1905, P., 306.
- and its 2-carboxylic acid and its ethyl ester and their salts (ATKINSON and THORPE), 1906, T., 1920; P., 282.
- formation of, from  $\beta$ -imino- $\alpha$ -cyano- $\gamma$ -phenylpropane (BEST and THORPE), 1908, P., 283; 1909, T., 8.
- formation of methyl derivatives of, from the three tolylacetoneitriles (ATKINSON and THORPE), 1907, T., 1687; P., 216.
- 1:4-Naphthylenediamine** and its 3-carboxylic acid and its ethyl ester, formation of (THORPE), 1907, T., 1005; P., 151.
- benzoyl derivative, coloured diazo-salts from, and azo-derivatives of (MORGAN and WOOTTON), 1907, T., 1311; P., 180.
- $N$ -dibenzoyl derivative, and its isomeride (WOHL and GOLDENBERG), 1904, A., i, 209.
- 1:5-Naphthylenediamine** (CHEMISCHE FABRIK SCHEUBLE & Co.; KUNCCELL), 1912, A., i, 902.
- diacetyl derivative (KUNCCELL and SCHNEIDER), 1912, A., i, 811.
- quinoline derivatives of (FINGER and SPITZ), 1909, A., i, 523.
- 1:8-Naphthylenediamine**, production of iminazoles from (FARBENFABRIKEN VORM. F. BAYER & Co.), 1909, A., i, 263.
- dibenzoyl and ethylidene derivatives of (SACHS, APPENZELLER, HEROLD, MYLO, SCHÄDEL and SUTTER), 1906, A., i, 830.
- Naphthylenediamines**, compounds of trinitrobenzene and (SUDBOROUGH and BEARD), 1910, T., 787.

- 1:3-Naphthylenediamine-2-carboxylic acid** and its methyl ester and its hydrochloride (BEST and THORPE), 1909, T., 11.  
ethyl ester, formation of, from ethyl  $\beta$ -imino- $\alpha$ -cyano- $\beta$ -*o*-tolylpropionate (ATKINSON, INGHAM, and THORPE), 1907, T., 587; P., 76.
- 1:5-Naphthylenediaminedicrotonic acid**, ethyl ester (FINGER and SPITZ), 1909, A., i, 523.
- 1:3-Naphthylenediamine-5-sulphonic acid** (DANNERH), 1907, A., i, 910.
- 1:3-Naphthylenediamine-6-sulphonic acid** and its dithiocarbamide (KALLE & Co.), 1903, A., i, 555.
- 1:5-Naphthylenediamine-4-sulphonic acid**, 5-acetyl derivative (BUCHERER and UHLMANN), 1909, A., i, 787.
- Naphthylene-1-diazo-2-imine**, 4-bromo- (MORGAN and GODDEN), 1910, T., 1712.
- 1:2-Naphthylenediazoimines**, two isomerides, and their benzenesulphonyl derivatives (MORGAN and GODDEN), 1912, T., 1702; P., 165.
- Naphthylene-1:8-dibenzylideneimine**, 2:7-*d*ihydroxy-, and its salts, and triacetyl, and tribenzyl derivatives (BESCHKE, RÖLLE, and STRUM), 1909, A., i, 962.
- 2:3-Naphthylene-di-3:5-dimethylpyrazole** and -di-5-phenyl-3-methylpyrazole and their derivatives (FRANZEN), 1907, A., i, 881.
- Naphthylene-1:8-difurfurylideneimine**, 2:7-*d*ihydroxy-, and its salts, triacetyl and tribenzoyl derivatives (BESCHKE, RÖLLE, and STRUM), 1909, A., i, 963.
- 2:3-Naphthylenedihydrazine** and its derivatives (FRANZEN), 1907, A., i, 880.  
and its benzylidene derivative and hydrochloride (FRANZEN), 1905, A., i, 244.
- 2:7-Naphthylenedihydrazine** and its dibenzylidene derivative (FRANZEN and DEIBEL), 1908, A., i, 833.
- 2:3-Naphthylenedi-3-phenylpyrazolone** and its di-isonitroso-derivative (FRANZEN), 1907, A., i, 882.
- $\alpha$ - and  $\beta$ -Naphthylene-*p*-tolylene oxides (SABATIER and MAILHE), 1912, A., i, 767.
- $\alpha$ -Naphthylethyl alcohol and its phenylurethane (GRIGNARD), 1905, A., i, 594.
- $\alpha$ -Naphthylethylene (TIFFENEAU and DAUDEL), 1908, A., i, 973.
- $\beta$ -Naphthyl ethyl ketone, desaurin from (KELBER and SCHWARZ), 1912, A., i, 207.
- 9- $\alpha$ -Naphthylfluorene** and its alcohol (ULLMANN and V. WURSTEMBERGER), 1906, A., i, 77.
- $\alpha$ -Naphthyl heptadecyl ketone (RYAN and NOLAN), 1912, A., i, 750.
- $\alpha$ -Naphthylhydantoic acid (NEUBERG and FEDERER), 1906, A., i, 806.
- 1-Naphthylhydrazine**,  $\alpha\beta$ -dibenzoyl derivative (WOHL and GOLDENBERG), 1904, A., i, 209.
- 2-Naphthylhydrazine**, condensation of, with aldehydes and ketones (ROTHENFUSSE), 1908, A., i, 52.
- 2-Naphthylhydrazine**, 7-amino-, and 7-hydroxy-, and their benzylidene derivatives (FRANZEN and DEIBEL), 1908, A., i, 832.
- Naphthylhydrazines**, action of sulphites on (BUCHERER and SCHMIDT), 1909, A., i, 521.  
 $\alpha$ - and  $\beta$ -, two new methods of preparing (FRANZEN), 1905, A., i, 244.
- 2-Naphthylhydrazine-6-sulphonic acid** and its sodium salt (BUCHERER and SCHMIDT), 1909, A., i, 522.
- $\beta$ -Naphthylhydrazone, use of, for the detection and separation of the sugars (HILGER and ROTHENFUSSE), 1903, A., ii, 187.
- 1- $\alpha$ -Naphthylhydrocotarnine** and its hydrobromide (FREUND and REITZ), 1906, A., i, 601.
- $\alpha$ -Naphthylhydrohydrastinine and its salts (FREUND and LEDERER), 1911, A., i, 907.
- Naphthylhydroxylamine**,  $\alpha$ -nitroso-, metallic salts of (BAUDISCH), 1911, A., i, 125.
- N*- $\alpha$ -Naphthylhydroxylamine** (SCHEIBER), 1904, A., i, 867.  
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- $\alpha$ -Naphthylideneacetylacetone,  $\beta$ -hydroxy- (KNOEVENAGEL and SCHRÖDER), 1905, A., i, 64.
- Naphthylideneamines** (SENIER and CLARKE), 1911, T., 2081; P., 260.
- $\alpha$ -Naphthylidene-*p*-aminobenzoic acid, 2-hydroxy-, and its ethyl ether (MANCHOT and PALMBERG), 1912, A., i, 350.
- $\alpha$ -Naphthylidene-*o*-, -*m*-, and -*p*-aminobenzoic acids, 2-hydroxy- (SENIER and CLARKE), 1911, T., 2083.
- $\alpha$ -Naphthylidene-*p*-aminophenol, 2-hydroxy- (MANCHOT and PALMBERG), 1912, A., i, 349.
- $\alpha$ -Naphthylidene-*o*-, -*m*-, and -*p*-aminophenols, 2-hydroxy- (SENIER and CLARKE), 1911, T., 2082.

- $\alpha$ -Naphthylideneaniline**, 2-hydroxy- (MANCHOT and PALMBERG), 1912, A., i, 350.
- $\beta$ -Naphthylideneaniline** (MONIER-WILLIAMS), 1906, T., 276; (GATTERMANN), 1912, A., i, 985.
- $\alpha$ -Naphthylidene-*p*-anisidine**, 2-hydroxy- (MANCHOT and PALMBERG), 1912, A., i, 350.
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- $\alpha$ -Naphthylidene-*o*-, -*m*-, and -*p*-bromoaniline**, 2-hydroxy- (SENIER and CLARKE), 1911, T., 2082.
- $\alpha$ -Naphthylidene-*o*-, -*m*-, and -*p*-chloroaniline**, 2-hydroxy- (SENIER and CLARKE), 1911, T., 2081.
- $\alpha$ -Naphthylidene- $\psi$ -cumidine**, 2-hydroxy- (SENIER and CLARKE), 1911, T., 2084.
- $\alpha$ -Naphthylidene- $\alpha$ - and - $\beta$ -naphthylamines**, 2-hydroxy- (BARTSCH), 1903, A., i, 649; (MANCHOT and PALMBERG), 1912, A., i, 350.
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- $\alpha$ -Naphthylidene-*m*-toluidine**, 2-hydroxy- (SENIER and SHEPHEARD), 1909, T., 1954.
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- 4- $\beta$ -Naphthylimino-3- $\beta$ -naphthylquinazoline-2-carboxylic acid**, ethyl ester (BOGERT and GORTNER), 1910, A., i, 284.
- 2:5-Naphthylimino-1-phenyl-2:3-dimethylpyrazoles**,  $\alpha$ - and  $\beta$ - (2:5-naphthyliminopyrines) and their additive salts (MICHAELIS and HEPNER), 1905, A., i, 480.
- 2:5-Naphthyliminopyrines**. See 2:5-Naphthylimino-1-phenyl-2:3-dimethylpyrazoles.
- $\beta$ -Naphthylitamic acid** (BEHREND, LUDWIG, and KLINCKHARD), 1911, A., i, 288.
- $\alpha$ -Naphthyl ketones**, preparation of, free from the  $\beta$ -isomerides (CAILLE), 1911, A., i, 792.
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- $\alpha$ (?) -Naphthyl-4-methoxyphenylacetic acid**, 2-hydroxy- (BISTRZYCKI, PAULUS, and PERRIN), 1911, A., i, 868.
- $\alpha$ -Naphthylmethyl bromide** (SCHMIDLIN and MASSINI), 1909, A., i, 562.
- chloride** (WISLIGENUS and WREN), 1905, A., i, 284.
- $\alpha$ -Naphthylmethylamine**,  $\beta$ -hydroxy-, *N*-acyl derivatives of (EINHORN, BISCHKOPFF, SZELINSKI, and LADISCH), 1906, A., i, 247.
- $\beta$ -Naphthylmethylamine** and its salts (PSCHORR and KARO), 1906, A., i, 886.
- $\beta$ -Naphthylmethylaminoacetoneitrile** (V. BRAUN), 1908, A., i, 628.
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- 3- $\alpha$ -Naphthyl-2-methyl-4-dihydroquinazoline**, 7-amino-, acetyl derivative (BOGERT, AMEND, and CHAMBERS), 1910, A., i, 895.
- 3- $\alpha$ - and - $\beta$ -Naphthyl-2-methyl-4-dihydroquinazolones**, and their methiodides (BOGERT and GEIGER), 1912, A., i, 396, 511.
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- $\gamma$ - $\beta$ -Naphthylmethylethylamine oxide** and its derivatives (MEISENHEIMER and HOFFHEINZ), 1912, A., i, 25.
- $\beta$ -Naphthylmethylethylammoniumhydroxide**, *d*- and *l*-hydroxy-, and their salts (MEISENHEIMER and HOFFHEINZ), 1912, A., i, 25.
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- $\alpha$ -Naphthylmethylglycollic acid** (GRIGNARD), 1903, A., i, 31.
- $\gamma$ -( $\alpha$ - and  $\beta$ -)Naphthyl- $\gamma$ -methylitaconic acid** (STOBBE and LENZNER), 1911, A., i, 379.
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- $\beta$ -Naphthyl methyl ketone**, 1-hydroxy-(2-acetyl- $\alpha$ -naphthol) (TORREY and CARDARELLI), 1911, A., i, 67.
- and its bromo-derivative, phenylhydrazones of (TORREY and BREWSTER), 1910, A., i, 48.
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- $\alpha$ -Naphthyl- $\beta$ -methyl- $\Delta\alpha\gamma$ -pentadiene** (BJELOUSS), 1912, A., i, 230.
- $\beta$ -Naphthylmethylpyrazole**, chloro-, methochloride of (MICHAELIS and DANZFUSS), 1905, A., i, 481.
- $\beta$ -Naphthyl-3-methylpyrazolone**, 7'-hydroxy- (FRANZEN and DEIBEL), 1908, A., i, 832.
- $\beta$ -Naphthyl-3-methyl-5-pyrazolone-7'-sulphonic acid**, 5'-hydroxy-, and its nitroso-derivative (AKTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION), 1911, A., i, 687.
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- $\alpha$ -Naphthyl-nitroacetamide and -isonitroacetoneitrile** and its sodium derivative (WISLICENUS and WREN), 1905, A., i, 284.
- $\alpha$ -1- and -2-Naphthyl- $o$ -nitrocinnamic acids** (WEITZENBÖCK and LIEB), 1912, A., i, 548.
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- $\alpha$ -Naphthylnitrosoamine**, 4-amino-, *N*-benzoyl derivative of (MORGAN and WOOTTON), 1907, T., 1322.
- $\alpha$ -Naphthylloxamic acid**, 3-hydroxy-, and its ethyl ester and amide (MEYER and WOLFSLEBEN), 1911, A., i, 631.
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- $\beta$ -Naphthylparaconic acid** (BEHREND, LUDWIG, and KLINCKHARD), 1911, A., i, 288.
- $\alpha$ -Naphthyl pentadecyl ketone** (RYAN and NOLAN), 1912, A., i, 749.
- $\alpha$ -1-Naphthylpentan- $\gamma$ -one**, 2-chloro- (SACHS and BRIGL), 1911, A., i, 720.
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- $\beta$ -Naphthylphthalamic acid**, intramolecular condensation of (TINGLE and LOVELACE), 1907, A., i, 1045. benzylamine salt (TINGLE and BRENTON), 1909, A., i, 799.
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- $\alpha$ -Naphthylpropenylcarbinol** (SCHURAKOVSKY), 1910, A., i, 169.
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- $\beta$ -Naphthyl propyl ketone**, crystallography of (BARGELLINI and MELACINI), 1908, A., i, 775; (ROSATI), 1909, A., i, 241.
- Naphthylpyridinium**, dinitro-, preparation of derivatives of (FARBENFABRIKEN VORM. F. BAYER & Co.), 1910, A., i, 696.
- Naphthylpyrroles**, 1- $\alpha$ - and - $\beta$ -, and 2- $\beta$ - (PICTET and LONG), 1904, A., i, 772.
- $\beta$ -Naphthylpyruvic acid** (KIKKOJI), 1911, A., ii, 910.
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- $\beta$ -Naphthylsemicarbazide**, 7-hydroxy- (FRANZEN and DEIBEL), 1908, A., i, 832.
- 3- $\alpha$ - and - $\beta$ -Naphthyl-2-styryl-4-dihydroquinazolone** (BOGERT and BEAL), 1912, A., i, 394.
- $\beta$ -Naphthylsuccinamic acid**, ethyl ester (MEYER and v. LUTZAN), 1906, A., i, 765.
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- 1-Naphthylsulphamin-2:4:7-trisulphonic acid**, salts of (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1910, A., i, 240.
- Naphthylsulphon-**. See Naphthalenesulphon-.
- $\beta$ -Naphthyltartramic acid** and its aniline salt and  $\beta$ -naphthylamide (TINGLE and BATES), 1909, A., i, 910.

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- $\alpha$ - and  $\beta$ -Naphthylthiocarbimides (KALUZA and HAID), 1912, A., i, 441.
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- $\beta$ -Naphthyl- $\psi$ -thiohydantoins**, labile and stable (JOHNSON), 1903, A., i, 580.
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- $\alpha$ - and  $\beta$ -Naphthylthiolacetic acids, and amino-, lactam, and cyano- (KALLE & Co.), 1912, A., i, 208; (FRIEDLÄNDER, VOROSCHTSCOFF, and ECKSTEIN), 1912, A., i, 295.
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- 1- $\beta$ -Naphthylthiolanthraquinone-2-carboxylic acid** (BADISCHE ANILIN- & SODA-FABRIK), 1912, A., i, 468.
- $\alpha$ - $\beta$ -Naphthylthiolbenzoic acid**, new preparation of (GOLDBERG), 1905, A., i, 59.
- $\beta$ -Naphthyl-thiuret hydrochloride and -dithiobiuret** (FROMM and WELLER), 1908, A., i, 703.
- $\alpha$ -Naphthyl- $p$ -tolylethylene** (SCHURAKOVSKY), 1910, A., i, 169.
- $\beta$ - $\alpha$ -Naphthylxyloside**, synthesis of (RYAN and EBRILL), 1908, A., i, 716.
- 1:8-Naphthyridine**, synthesis of derivatives of, from  $\alpha$ -aminopyridine (PALAZZO and TAMBURINI), 1911, A., i, 327.
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- and its salts and *apo*Narceine (TAMBACH and JAEGER), 1906, A., i, 879.
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- derivatives, preparation of (KNOLL & Co.), 1907, A., i, 236, 958.
- reactions of (REICHARD), 1907, A., ii, 414.
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- apo*Narceine, preparation of, and its hydrochloride and methosulphate (KNOLL & Co.), 1907, A., i, 1070.
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- and its salts and derivatives (FREUND and OPPENHEIM), 1909, A., i, 410.
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- and its picrate (TUTIN), 1911, T., 1244; P., 149.
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- iso***Narcotine** (JONES, PERKIN, and ROBINSON), 1912, T., 257; P., 4.
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- Natrochalcite**, a new mineral from Chile (PALACHE and WARREN), 1908, A., ii, 1047.
- Natrolite** from California (JEŽEK), 1912, A., ii, 774.
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- Natto**, micro-organisms of (SAWAMURA), 1906, A., ii, 880.
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- Nemaphyllite** and its intergrowth with dolomite from the Tyrol (FÖCKE), 1904, A., ii, 419.
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- $\pi$ -Norcampholenic acid** and its nitrile (SEMMLER and BARTELT), 1908, A., i, 195.
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- Noreksantallic acid** and its methyl ester (SEMMLER), 1910, A., i, 496.
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- as*-**Oxalyldiphenylguanidine** (DIECKMANN and KÄMMERER), 1907, A., i, 979.
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- iso***Oxazolone**, amino-oximino- (WIELAND and HESS), 1909, A., i, 370.
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- Pechmann's dye** from benzoylacrylic acid (KÓZNIEWSKI and MARCHLEWSKI), 1906, A., i, 759.
- Pectin substance** from coffee (GORTER), 1908, A., i, 346.
- Pectins** (WILHELMJ), 1909, A., i, 768. from aucuba and sweet orange (HARLAY), 1912, A., ii, 479. from the fruits of *Lonicera xylosteum*, *Symphoricarpos racemosus*, and *Tamus communis* (BRIDEL), 1908, A., ii, 125. Mangin's ruthenium-red as a reagent for (TOBLER), 1906, A., ii, 906.
- $\alpha$ -Pectolinarin** (KLOBB), 1908, A., i, 904.
- Pectolinarins**,  $\alpha$ - and  $\beta$ -, from *Linaria vulgaris* (KLOBB), 1907, A., i, 864.
- Pectolite** from Craigenfeoch, Renfrewshire (HOUSTON), 1909, A., ii, 63.



- Peganum harmala* (rue), pharmacology of (FLURY), 1911, A., ii, 138.  
bromo-derivatives of the alkaloids of (HASENFRATZ), 1912, A., i, 209.
- Pegmatites** of Madagascar, minerals from (DUPARC, SABOT, and WUNDER), 1910, A., ii, 221.
- Pegmatite-veins**, Norwegian, columbates, tantalates, and titanates from the (BRÖGGER), 1907, A., ii, 884.
- Pelagosite** from the island of Tremiti (SQUINABOL and ONGARO; DE GÖTZEN), 1903, A., ii, 27.
- Pelargonic acid**. See *n*-Nonoic acid.
- $\psi$ -**Pelletierine**, derivatives of (WILLSTÄTTER and VERAGUTH), 1905, A., ii, 543.
- Pellets**, press for the preparation of (FREUNDLER), 1904, A., ii, 652.
- Peltidactylin** (ZOPF), 1909, A., i, 238.
- Peltigeraceæ** (*lobulated lichens*), substances present in (ZOPF), 1909, A., i, 237.
- Peltigeric acid** (ZOPF), 1909, A., i, 237.
- Peltigerin** (ZOPF), 1909, A., i, 237.
- Peltigronic acid** (ZOPF), 1909, A., i, 237.
- Penicillium camemberti*, intracellular enzymes of (DOX), 1909, A., i, 861.
- Penicillium crustaceum*, action of copper salts on the germination of (LE RENARD), 1906, A., ii, 880.
- Penicillium glaucum*, influence of acetic acid on the growth of (REICHEL), 1911, A., ii, 144.  
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influence of various organic compounds on the growth of (BÖESEKEN and WATERMAN), 1912, A., ii, 283, 477.
- Pennacerin** (RÖHMANN), 1905, A., ii, 842.
- Pennyroyal**, American, oil of, constituents of (BARROWCLIFF), 1907, T., 875; P., 114.
- 2:5:7:8:10-Penta-acetoxybrazan** (v. KOSTANECKI and LLOYD), 1903, A., i, 646.
- 2:3:6:7:2'-Penta-acetoxyphenylxanthen** and 3'-bromo- (HEINTSCHEL), 1905, A., i, 809.
- Penta-acetyl**. See under the parent Substance.
- $\alpha$ -**Pentabenzoyldextrose** (FISCHER and FREUDENBERG), 1912, A., i, 888.
- Pentabenzoyltannic acid** (VOURNASOS), 1903, A., i, 95.
- $\alpha$ - and  $\beta$ -**Pentacinnamoyldextrose** (FISCHER and FREUDENBERG), 1912, A., i, 888.
- Pentadecanetetracarboxylic acid**. See  $\beta$ -Dimethyltridecane- $\alpha$ - $\nu$ -tetracarboxylic acid.
- $n$ -**Pentadecane- $\alpha$ - $\gamma$ -tricarboxylic acid** and its esters (BARROWCLIFF and POWER), 1907, T., 569; P., 70.
- $n$ -**Pentadecanol** (BLAISE), 1904, A., i, 370.
- Pentadecoic acid** and its salts, esters, and amide, and  $\alpha$ -bromo- (LE SUEUR), 1905, T., 1898.  
 $\alpha$ -hydroxy-, action of heat on, and its amide and lactide (LE SUEUR), 1905, T., 1899.
- Pentadecoic aldehyde** and its polymeride, oxime, and semicarbazone (LE SUEUR), 1905, T., 1896.
- Pentadecyl chloride** (v. BRAUN and SOBECKI), 1911, A., i, 598.  
cyanide,  $\alpha$ -hydroxy-, and its hydrolysis (LE SUEUR), 1905, T., 1896.  
iodide (GASCARD), 1912, A., i, 65.
- Pentadecyl alcohol**. See *iso*Butyl*diiso*-amylcarbinol.
- Pentadecylamine**, benzoyl derivative (v. BRAUN and SOBECKI), 1911 A., i, 598.
- Pentadecylaniline** and its derivatives (LE SUEUR), 1910, T., 2438; P., 290.
- Pentadecyl- $\alpha$ - and - $\beta$ -naphthylamine**, and their salts and derivatives (LE SUEUR), 1911, T., 830, 832.
- $\Delta\alpha\gamma$ -**Pentadiene** (REIF), 1908, A., i, 847.  
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- cyclo***Pentadiene**, optical properties of (AUWERS), 1912, A., i, 956.  
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- $\psi$ -**nitrosite** and nitrosochloride (WIELAND and STENZL), 1908, A., i, 519.  
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- cyclo***Pentadienes** (SEMMLER), 1907, A., i, 145.
- cyclo***Pentadieneazobenzene** *perbromide* (EIBNER and LAUE), 1906, A., i, 614.

- cyclo*-Pentadiene-benzoquinone, -di-hydrobenzoquinol, -dihydrobenzoquinone, -chloroanil, and - $\alpha$ -naphthaquinone and their derivatives (ALBRECHT), 1906, A., i, 675.
- Penta- $\Delta\gamma$ -dien- $\alpha$ -ol- $\epsilon$ -al,  $\beta$ -chloro-. See Glutaconaldehyde,  $\alpha$ -chloro-.
- Pentaerythritol, condensation of, with aldehydes (READ), 1912, T., 2090; P., 240.
- tetraformate, decomposition of, on heating (VAN ROMBURGH), 1907, A., i, 1011.
- Pentaerythrose, preparation of (MCLEOD), 1907, A., i, 172.
- Pentaethylphloroglucinol, ethyl ether of (HERZIG and ERTHAL), 1911, A., i, 777.
- Pentagalloylglucose (FISCHER and FREUDENBERG), 1912, A., i, 472.
- Pentaglycol, ester of (FRANKE and KOHN), 1904, A., i, 845.
- Pentaglycylglycine and its methyl ester (FISCHER), 1906, A., i, 146.
- Pentahydropenthiophen (*pentamethylene sulphide*) (V. BRAUN and TRÜMLER), 1910, A., i, 275.
- Penta[*p*-hydroxybenzoyl]glucose (FISCHER and FREUDENBERG), 1912, A., i, 472.
- 2:2':4:4':6':6'-Pentaketo-3:3:3':3':5:5:5':5'-octamethyleyclohexenylcyclohexylidenemethane, 6-hydroxy-, and its methyl ether (HERZIG, WENZEL, and REISMANN), 1906, A., i, 94.
- Pentamercuriacetanilide, colloidal acetate of (RAFFO and ROSSI), 1912, A., i, 931.
- 2:4:6:2':4'-Pentamethoxybenzhydrol (TAMBOR and SCHÜRCH), 1910, A., i, 559.
- 2:4:6:3':4'-Pentamethoxybenzhydrol. See Leucomaclurin pentamethyl ether.
- methyl ether (V. KOSTANECKI and LAMPE), 1907, A., i, 74.
- 1:2:3:3':4'-Pentamethoxybenzophenone and hydroxy- and its benzoyl derivative, synthesis of (PERKIN and ROBINSON), 1906, P., 305.
- 2:4:6:2':4'-Pentamethoxybenzophenone (TAMBOR and SCHÜRCH), 1910, A., i, 559.
- 2:4:6:3':4'-Pentamethoxybenzophenone (*pentamethylmaclurin*) and bromo-, synthesis of (PERKIN and ROBINSON), 1906, P., 305.
- synthesis of (V. KOSTANECKI and TAMBOR), 1907, A., i, 75.
- 3:4:3':4':5'-Pentamethoxybenzophenone and its oxime (PERKIN, WEIZMANN, and NAYLOR), 1906, T., 1664.
- 3:4:3':4':5'-Pentamethoxybenzophenone, synthesis of (V. KOSTANECKI and TAMBOR), 1907, A., i, 75.
- 3:4:3':4':5'-Pentamethoxybenzophenone, 2-hydroxy-, and its oxime (PERKIN, WEIZMANN, and HARDING), 1906, T., 1665.
- 1:2:5(or 10):7:8-Pentamethoxybrazan (V. KOSTANECKI and ROST), 1903, A., i, 646.
- 2:5:7:8:10-Pentamethoxybrazan (V. KOSTANECKI and LLOYD), 1903, A., i, 646.
- 3:4:2':4':5'-Pentamethoxychalkone (BARGELLINI and AVRUTIN), 1911, A., i, 68.
- 4:2':3':4':6'-Pentamethoxychalkone (BARGELLINI and BINI), 1911, A., i, 212.
- $\alpha$ :4:4':4''':4''''-Pentamethoxy- $\alpha\beta$ -dibenzoyldibenzyl (IRVINE and McNICOLL), 1908, T., 1602; P., 192.
- 3(or 5):2:4:4':6'-Pentamethoxydiphenyl-6:2'-dicarboxylic acid (HERZIG, TSCHERNE, and EPSTEIN), 1908, A., i, 548.
- 3:4:4':5':6'-Pentamethoxydiphenyl-6:2'-dicarboxylic acid, 2-hydroxy-, and its lactone (HERZIG and POLAK), 1908, A., i, 547.
- 2:4:6:3':4'-Pentamethoxydiphenylmethane (V. KOSTANECKI and LAMPE), 1907, A., i, 334.
- 2:4:6:3':4'-Pentamethoxy-3-ethylidiphenylmethane. See Deoxyhydrocatechin pentamethyl ether.
- 1:3:4:3':4'-Pentamethoxyflavonol (NIERENSTEIN and WHELDAL), 1912, A., i, 42.
- $\alpha\alpha\gamma\gamma\gamma$ -Pentamethylacetoacetic acid, ethyl ester (WAHLBERG), 1911, A., i, 708.
- Pentamethyltriaminophenyl-di-*o*-tolylcarbinol and its hydrochloride (RASOW and REUTER), 1912, A., i, 586.
- Pentamethylbenzene, nitro-, and  $\omega$ -nitro- (WILLSTATTER and KUBLI), 1909, A., i, 899.
- Pentamethylbenzylether (WILLSTATTER and KUBLI), 1909, A., i, 899.
- Pentamethylcarbonatobenzoyloxybenzoic acid (FISCHER), 1908, A., i, 893.
- Penta[*p*-methylcarbonatohydroxybenzoyl]glucose (FISCHER and FREUDENBERG), 1912, A., i, 472.
- 3:4:5:6:8-Pentamethylcoumarin, formation of (CLAYTON), 1908, T., 2021.
- Pentamethyldehydrohæmatoxylin,  $\alpha$ - and  $\beta$ - (HERZIG and POLAK), 1904, A., i, 81.

- Pentamethyldihydrohæmateinol** (ENGELS, PERKIN, and ROBINSON), 1908, T., 1143.
- Pentamethylene.** See *cyclopentane*.
- Pentamethylene bromide.** See *Pentane, æ-dibromo-*.
- Pentamethylene mercaptan.** See *æ-Dithioliopentane*.
- Pentamethylene sulphide.** See *Pentahydropenthiophen*.
- Pentamethylene series, synthesis in the** (HAMONET), 1905, A., i, 403.
- derivatives of the (V. BRAUN and STEINDORFF), 1905, A., i, 341.
- 2:3-Pentamethylenecinchonic acid** (BORSCHKE, SCHMIDT, TIEDTKE, and ROTTSIEPER), 1910, A., i, 884.
- Pentamethylenecyanoethylputrescine** (V. BRAUN), 1911, A., i, 563.
- Pentamethylenecyanopropylputrescine** (V. BRAUN), 1911, A., i, 563.
- Pentamethylenediamine** (*cadaverine*), presence of, in the products of hydrolysis of muscle (ÉTARD and VILA), 1903, A., i, 589.
- formation of, from piperidine, and its salts and benzenesulphonyl derivative (V. BRAUN), 1904, A., i, 1019.
- synthesis of, and its phenylcarbinide derivative (NEUBERG and NEIMANN), 1905, A., i, 686.
- action of nitrous acid on (DEMJANOFF and DOJARENKO), 1907, A., i, 592.
- excretion of, in a case of cystinuria (BÖDTKER), 1905, A., ii, 741.
- salts (HANTZSCH and BORCHERS), 1907, A., i, 209.
- picronolate (OTORI), 1905, A., ii, 126.
- Pentamethylenediamines, formation of** (SCHOLTZ and WASSERMANN), 1907, A., i, 339.
- Pentamethylenediaminephenylcarbinide** (LOEWY and NEUBERG), 1905, A., i, 158.
- Pentamethylenediaminium cyanide** (PETERS), 1906, A., i, 817.
- Pentamethylene-æ-di-benzyl and -ethyl sulphones** (AUTENRIETH and GEYER), 1909, A., i, 6.
- Pentamethylenedicarbimide and its derivatives** (V. BRAUN and DEUTSCH), 1912, A., i, 686.
- Pentamethylenediguanidine, synthesis of, and its aurichloride** (RIPKE), 1911, A., i, 620.
- Pentamethylenedi-phthalamie acid and -phthalimide** (V. BRAUN), 1904, A., i, 1019.
- Pentamethylene-ethylputrescine and its salts** (V. BRAUN), 1911, A., i, 563.
- Pentamethylenemethylxylylenediamine, and its benzenesulphonyl derivative** (SCHOLTZ and WOLFRUM), 1910, A., i, 772.
- Pentamethylenepiperidinium bromide** (*dipiperidinium bromide*) and platinichloride (BRAUN, MÜLLER, and BESCHKE), 1907, A., i, 151.
- Pentamethylenepropylputrescine and its salts** (V. BRAUN), 1911, A., i, 563.
- 2:3-Pentamethylenequinoline and its salts** (BORSCHKE, SCHMIDT, TIEDTKE, and ROTTSIEPER), 1910, A., i, 884.
- Pentamethylenetetramine, N-dichloro-** (DELÉPINE), 1912, A., i, 12.
- Pentamethylethane, bromo-** (HENRY and DE WAELE), 1906, A., i, 782.
- Pentamethylethanol and its hydrate** (HENRY), 1906, A., i, 618.
- formation of (HENRY), 1907, A., i, 671.
- synthesis of (HENRY), 1906, A., i, 477; (HENRY and DE WAELE), 1906, A., i, 782.
- ααβγγ-Pentamethylglutaric acid, β-hydroxy-, and its silver salt** (SAYR-ZEFF), 1911, A., i, 419.
- Pentamethylguanidine and its salts** (SCHENCK), 1912, A., i, 425, 686.
- Pentamethylgynocardinic acid, methyl ester** (MOORE and TUTIN), 1910, T., 1287; P., 182.
- Pentamethylkaempferol** (WALIASCHKO), 1909, A., i, 948.
- Pentamethylmaclurin.** See 2:4:6:3':4'-Pentamethoxybenzophenone.
- Pentamethylorceinol and monobromo-** (HERZIG, WENZEL, ZEIDLER, and SCHWADRON), 1911, A., i, 777.
- Pentamethylphloroglucinol, preparation of** (HERZIG and ERTHAL), 1910, A., i, 667.
- compound of, with magnesium methyl iodide (HERZIG and ERTHAL), 1911, A., i, 778.
- 1:2:2:5:5-Pentamethylpyrrolidine-3-carboxylic acid and its ester, additive salts, and the methiodide of the amide** (PAULY and HÜLTENSCHMIDT), 1904, A., i, 87.
- Pentamethylquercetin, and amino-, di-bromo-, dibromonitro-, nitro-, and trinitro-, and their salts** (WATSON), 1911, P., 164.
- Pentamethylquercetinazo-β-naphthol** (WATSON), 1911, P., 165.
- Pentamethylquercetindiazonium chloride and sulphate** (WATSON), 1911, P., 165.
- Pentamethylquercitrin** (HERZIG and SCHÖNBACH), 1912, A., i, 707.



**Pentamethyltannin** (HERZIG), 1908, A., i, 186; 1912, A., i, 792.

*n*-**Pentane**, expansion of commercial, and the scale of the pentane thermometer (HOFFMANN and ROTHE), 1908, A., ii, 152.

*n*-**Pentane**, amino-. See Amylamine.

$\beta\delta$ -diamino- (TAFEL and PFEFFERMANN), 1903, A., i, 288.

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$\alpha\epsilon$ -dibromo- (v. BRAUN), 1904, A., i, 841. synthesis of ketones by the aid of (v. BRAUN), 1907, A., i, 893.

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$\beta\delta$ -dibromo- (PORAI-KOSCHITZ), 1904, A., i, 363.

$\alpha\alpha\epsilon\epsilon$ -tetrabromo- $\alpha\epsilon$ -dinitro-, and  $\alpha\epsilon$ -dinitro-, and its derivatives (v. BRAUN and SOBECKI), 1911, A., i, 831.

$\alpha\epsilon$ -dichloro- (v. BRAUN), 1904, A., i, 918, 1019.

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$\alpha\epsilon$ -dihalogen-, and primary amines (v. BRAUN, MÜLLER, and BESCHKE), 1907, A., i, 151.

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*l*- $\beta$ -iodo- (PICKARD and KENYON), 1911, T., 65.

*iso***Pentane**, thermodynamics of (VOGEL), 1910, A., ii, 687.

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*iso***Pentane**,  $\alpha\beta$ -dibromo- (FAWORSKY and KUTSCHEROFF), 1907, A., i, 743.

$\alpha\delta$ -dibromo-, and dihydroxy- and its diacetate (FAWORSKY and KUTSCHEROFF), 1907, A., i, 743.

$\beta\gamma\gamma$ -tribromo- (SCHMIDT and LEIPRAND), 1904, A., i, 279.

$\beta$ -bromo- $\gamma$ -nitroso- (*trimethylethylene nitrosobromide*), polymerism and desmotropy of (SCHMIDT and LEIPRAND), 1904, A., i, 278.

*iso***Pentane**,  $\beta\beta$ -dichloro- $\alpha\delta$ -dihydroxy- (SMIRNOFF), 1905, A., i, 173.

$\alpha$ -chloro- $\gamma$ -nitro- (KONOWALOFF), 1907, A., i, 271.

$\gamma$ -chloro- $\beta$ -nitroso-, polymerism and desmotropism of (SCHMIDT and AUSTIN), 1903, A., i, 2.

$\beta\gamma$ -di- and  $\beta\gamma\delta$ -tri-nitro- (PONI and COSTACHESCU), 1903, A., i, 596.

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*iso***Pentanes**, bromo-, equilibrium isomerism on heating (FAWORSKY and FRITZMANN), 1907, A., i, 741.

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*cyclo***Pentane** (EYKMAN), 1904, A., i, 26.

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*cyclo***Pentane**, bromo- (DEMJANOFF), 1908, A., i, 85.

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1-imino-2-cyano- (BEST and THORPE), 1909, T., 709; P., 93; (THORPE), 1909, T., 1901; P., 244.

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*spiro***Pentane** (*vinyltrimethylene*) (FECHT), 1907, A., i, 906.

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*cyclo***Pentanealdehyde** and its semicarbazone (WALLACH), 1906, A., i, 564.

*cyclo***Pentane-carboxylic acid** and its amide (ZELINSKY), 1908, A., i, 729.

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*cyclo***Pentane-1-carboxylic acid**, 1-amino-, preparation of, and its copper salt (ZELINSKY), 1911, A., i, 974.

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2-imino-3-cyano-, ethyl ester (BEST and THORPE), 1909, T., 696; P., 93.

- Pentane- $\gamma$ -carboxylonitrile** (*diethylacetonitrile*) and bromo- (HOERING), 1907, A., i, 1017.
- iso***Pentane- $\beta\delta$ -dicarboxylic acid**,  $\gamma\delta$ -dicyano-, ethyl ester (HOPE), 1912, P., 193.
- cyclo***Pentane-1:3-dicarboxylic acid**, 2-imino-, ethyl ester (MITCHELL and THORPE), 1910, T., 1002; P., 114.
- Pentanedicarboxylic acids.** See Butylmalonic acids, Diethylmalonic acid, Dimethylglutaric acids,  $\beta$ -Ethylglutaric acid, Methyladipic acids,  $\alpha$ -Methyl- $\alpha$ -ethylsuccinic acid, Methylpropylmalonic acid, Pimelic acid, and Trimethylsuccinic acid.
- Pentane- $\alpha\delta$ -diol**, preparation of (SEMMER), 1906, A., i, 785.  
oxide and chlorohydrin of (POSSANNER VON EHRENTHAL), 1903, A., i, 674.
- Pentane- $\alpha\epsilon$ -diol** and its diacetate (HAMONET), 1904, A., i, 643.
- Pentane- $\beta\gamma$ -diol** and its diphenylcarbamate (FRANKE, KOHN, and THIEL), 1907, A., i, 171.
- Pentane- $\beta\delta$ -diol** (ZELINSKY and UJEDINOFF), 1912, A., i, 16.  
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- iso***Pentane- $\alpha\delta$ -diol**, derivatives of (HARRIES and NERESHEIMER), 1911, A., i, 798.  
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- cyclo***Pentane-3:4-dione-1-carboxylic acid** and its derivatives (GAULT), 1910, A., i, 487.
- cyclo***Pentane-2:5-dione-1:1-dicarboxylic acid**, ethyl ester, and its pyrazolone derivative (SCHEIBER), 1909, A., i, 363.
- cyclo***Pentane-4:5-dione-1:2-dicarboxylic acid**, ethyl ester, and its derivatives (GAULT), 1910, A., i, 487.
- cyclo***Pentanediophenyldisulphones** (POSNER and TSCHARNO), 1905, A., i, 279.
- $\beta\delta$ -**Pentanediureide** and its dinitrate (DE HAAN), 1908, A., i, 578.
- cyclo***Pentanemethylamine** and its additive salts (WALLACH and FLEISCHER), 1907, A., i, 618.
- Pentanesulphonic acid**, hydroxy-, and its salts (WORSTALL), 1904, A., i, 1.
- cyclo***Pentanesulphonic acid**, potassium salt and anhydride of (BORSCHKE and LANGE), 1907, A., i, 599.
- Pentane- $\alpha\delta\epsilon$ -tetracarboxylic acid**, ethyl ester (DOBSON, FERNS, and PERKIN), 1909, T., 2011; P., 263.
- Pentane- $\beta\beta\delta\delta$ -tetracarboxylic acid** and its ethyl ester, synthesis of (SIMONSEN), 1908, T., 1785.
- cyclo***Pentane-1:1:2:2-tetracarboxylic acid**, ethyl ester (KÖTZ and SPIESS), 1903, A., i, 742.
- cyclo***Pentane-1:1:3:3-tetracarboxylic acid**, ethyl ester (THOLE and THORPE), 1911, T., 2186.
- Pentanetetracarboxylic acids.** See also  $\beta\delta$ -Dimethylpropanetetracarboxylic acid and Propylidenedimalonic acid.
- Pentane-1:2:3:5-tetrol** and its tetrabenzoate (KILIANI and SAUTERMEISTER), 1907, A., i, 1011.
- Pentanetricarboxylic acid** (ANGELI and MARINO), 1908, A., i, 544.
- Pentane- $\alpha\beta\delta$ -tricarboxylic acid** and its ethyl ester and cyano-, ethyl ester (HOPE and PERKIN), 1910, P., 178; 1911, T., 762; P., 95.
- Pentane- $\alpha\beta\epsilon$ -tricarboxylic acid** and its esters and anhydride (KÖTZ and SCHÜLER), 1907, A., i, 60.  
and its ethyl ester (DOBSON, FERNS, and PERKIN), 1909, T., 2012.
- Pentane- $\alpha\gamma\delta$ -tricarboxylic acid** and its ethyl ester, and  $\gamma$ -cyano-, ethyl ester, synthesis of (HAWORTH and PERKIN), 1908, T., 579.
- Pentane- $\alpha\gamma\epsilon$ -tricarboxylic acid** and  $\gamma$ -cyano-, ethyl esters (PERKIN), 1904, T., 417; P., 51.  
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- Pentane- $\beta\beta\delta$ -tricarboxylic acid**, potassium salts and resolution of (MÖLLER), 1911, A., i, 12.
- iso***Pentane- $\alpha\beta\delta$ -tricarboxylic acid** and its ethyl ester and  $\beta$ -cyano-, ethyl ester (HOPE and PERKIN), 1910, P., 178; 1911, T., 762; P., 95.
- iso***Pentane- $\alpha\delta\delta$ -tricarboxylic acid**, synthesis of (NOYES and COX), 1904, A., i, 10.
- Pentanetricarboxylic acids.** See also Dimethyltricarballic acid and  $\alpha$ -Ethyltricarballic acid.
- Pentanetriol.** See Amyl glycerol.
- Pentane-3:4:5-triolal.** See Metasaccharopentose.
- Pentan- $\gamma$ -ol**,  $\alpha\epsilon$ -diamino-, attempted synthesis of, and its picrate (MORGENSTERN and ZERNER), 1910, A., i, 656.
- iso***Pentan- $\gamma$ -ol**, synthesis of (HENRY), 1907, A., i, 744.
- cyclo***Pentan-1-olacetic acid** and its silver salt (HARDING and HAWORTH), 1910, T., 492.
- cyclo***Pentanolisobutyric acid**, ethyl ester (WALLACH and FLEISCHER), 1907, A., i, 618.

- cyclo*Pentan-1-ol-1-carboxylic acid, methyl ester (MEERWEIN and UNKEL), 1910, A., i, 857.
- cyclo*Pentan-1-ol- $\alpha$ -propionic acid and its ethyl ester (WALLACH and v. MARTIUS), 1909, A., i, 384.
- Pentan- $\delta$ -one,  $\beta$ -bromo- (WOHL and MAAG), 1911, A., i, 25.
- iso*Pentan- $\gamma$ -one,  $\beta$ -hydroxylamino-, and its oxime and derivatives, and  $\beta$ -hydroxy-, oxime, and  $\beta$ -nitrosohydroxylamino-, oxime (CUSMANO), 1911, A., i, 186.
- cyclo*Pentanone, preparation of (HOLLEMAN, VAN DER LAAN, and SLYPER), 1905, A., i, 444.
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- cyclo*Pentanone, 2-cyano-, and its semicarbazone, phenylhydrazine, and sodium derivative (BEST and THORPE), 1909, T., 709; P., 93.
- 2:5-dioximino- (BORSCHKE), 1910, A., i, 179.
- 2-*cyclo*Pentanone-1-acetic acid and its ethyl ester, and its semicarbazone (KÖTZ and SCHÜLER), 1907, A., i, 59.
- 2-*cyclo*Pentanone-1-acetic-1-carboxylic acid, ethyl ester, and its semicarbazone, and methyl ester, and its amide and pyrazolone derivative (KÖTZ and SCHÜLER), 1907, A., i, 59.
- cyclo*Pentanone-2-carboxylic acid, ethyl ester, preparation of (BOUVEAULT and LOCQUIN), 1908, A., i, 393; (DOBSON, FERNS, and PERKIN), 1909, T., 2015.
- cyclo*Pentanone-2-carboxylic acid, 5-cyano-, and its methoxy-, potassium, and silver derivatives, and ethylation of (BEST and THORPE), 1909, T., 701; P., 92.
- cyclo*Pentanone-3-carboxylic acid, ethyl ester, and the action of magnesium methyl iodide on (HAWORTH and PERKIN), 1908, T., 591.
- cyclo*Pentanone-4-carboxylic acid, preparation of, and its oxime and semicarbazone (KAY and PERKIN), 1906, T., 1640; P., 270.
- cyclo*Pentan-1-one-2:5-dicarbanilide (MITCHELL and THORPE), 1910, T., 1003.
- cyclo*Pentanone-2:4-dicarboxylic acid, ethyl ester, formation of (KAY and PERKIN), 1906, T., 1645; P., 270.
- cyclo*Pentanone-2:5-dicarboxylic acid, ethyl ester (MITCHELL and THORPE), 1910, T., 1003.
- cyclo*Pentanone-2:5-dioxalic acid and its ethyl ester (RUHEMANN), 1912, T., 1732.
- Pentan- $\gamma$ -one- $\beta$ -ol and its cyanohydrin and semicarbazone (GAUTHIER), 1911, A., i, 415.
- iso*Pentan- $\beta$ -one- $\gamma$ -ol and its semicarbazone (SCHMIDT and AUSTIN), 1903, A., i, 2; (GAUTHIER), 1911, A., i, 513.
- phenylmethylhydrazine, and other derivatives (DIELS and JOHLIN), 1911, A., i, 254.
- cyclo*Pentanone-2-oxalic acid, ethyl ester (RUHEMANN), 1912, T., 1732.
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- cyclo*Pentanylcarbinol and its phenylcarbamate and corresponding aldehyde (ZELINSKY), 1908, A., i, 727.
- Pentaphenylethane (GOMBERG and CONE), 1906, A., i, 414; (TSCHITSCHIBABIN), 1907, A., i, 204.
- Pentaphenylethanol (SCHMIDLIN and WOHL), 1910, A., i, 368.
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- Pentaphenylhydrazine hydriodides and hydrobromides (LOCKEMANN and WEINIGER), 1908, A., i, 916.
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- Penta[trimethylcarbonatogalloyl] glucose (FISCHER and FREUDENBERG), 1912, A., i, 472.
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- cyclo*Pentene derivatives, transformation of, into indene derivatives (ZINCKE and MEYER), 1909, A., i, 591.
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- cyclo*Pentene, octachloro- (HENLE), 1907, A., i, 223.
- dicyclo*Pentene and its derivatives (DEMJANOFF), 1910, A., i, 839.
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$\Delta^3$ -*cyclo*Pentene-1:2-dione, absorption spectra of derivatives and isomerides of (PURVIS), 1910, P., 327; 1911, T., 107.

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- Phellandrene** and its nitro-derivatives and nitrites (WALLACH and BESCHKE), 1904, A., i, 1035.  
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- $\alpha$ -Phellandrene** from carvone and its chloro-derivative (HARRIES and JOHNSON), 1905, A., i, 535.  
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- $\beta$ -Phellandrene** and its nitrite and diamino- and nitro-derivatives, constitution of (WALLACH), 1905, A., i, 709.
- d*-Phellandrene** in the oil of *Abies sibirica* (SCHINDELMEISER), 1907, A., i, 863.
- Phellandrenes**, natural and synthetical (KONDAKOFF and SCHINDELMEISER), 1907, A., i, 329.  
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- Phellonic**, *iso*Phellonic, and Phellogenic acids (v. SCHMIDT), 1904, A., i, 501.
- Phenacetin**, solubility of, in several solvents (SEIDELL), 1907, A., ii, 745.  
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- Phenacetin**, thio-. See Phenyl methyl sulphide, *p*-amino-, acetyl derivative.
- Phenaceturic acid** as an important constituent of urine (VASILIU), 1909, A., ii, 906.  
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- Phenacetyl**-. See Phenylacetyl-.
- Phenacite** from Brazil (HUSSAK), 1909, A., ii, 492.
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- Phenacylacetoacetic acid**, ethyl ester, action of hydrazine on (PAAL and KÜHN), 1908, A., i, 57; (BÜLOW and FILCHNER), 1908, A., i, 578.  
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- Phenacyl-alanturic acid** and its acetyl derivative, and -dialuric acid (KÜHLING), 1905, A., i, 944.
- Phenacylammmonium salts**, quaternary (WEDEKIND), 1908, A., ii, 878.
- Phenacylaniline**, condensation of, with certain chloro-ethers (MASELLI), 1905, A., i, 776.
- Phenacylbenzoylacetic acid**, ethyl ester, action of hydrazine on (PAAL and KÜHN), 1908, A., i, 57.  
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- 6-Phenacyl-5-benzylcyclopentanone** and its monoxime (STOBBE and VOLLAND), 1903, A., i, 115.
- Phenacylcycloacetic acid**. See  $\gamma$ -Keto- $\gamma$ -phenylbutyric acid.
- Phenacyldialkylsulphine salts** (SMILES), 1905, P., 93.
- Phenacyl-dialuric acid**, -*isohydantoic acid*, and -*tartronuric acid* and its salts (KÜHLING), 1908, A., i, 571.
- Phenacyldialuric acid**, bromo-, and its silver salt, and acetyl derivative (KÜHLING and SCHNEIDER), 1909, A., i, 425.
- 3-Phenacyl-2:5-diphenylfuran** and the action of hydrazine hydrate on (PAAL and SCHULZE), 1903, A., i, 710.
- Phenacylnaphthalimidine** and its acetyl and methyl derivatives (ZINK), 1903, A., i, 172.
- Phenacylphenyldialkylammmonium salts** (WEDEKIND), 1908, A., i, 878.
- $\gamma$ -Phenacyl- $\gamma$ -phenylglutaric acid** and its salts (STOBBE and WERDERMANN), 1903, A., i, 421, 423.

- 2-Phenacyltetrahydroisoquinoline** and its **2-acetic acid**, ethyl ester, bromide of (WEDEKIND and OECHSLEN), 1903, A., i, 517.
- 9':10'-Phenanthra-2:3-anthraquinone-azine** (SCHOLL and KAČER), 1905, A., i, 88.
- 9:10-Phenanthracarbazole** and **9:10-phenanthra-1':2'- and -2':1'-naphthacarbazoles** (JAPP and MAITLAND), 1903, T., 275 ; P., 19.
- Phenanthrachlorophenazine** (ULLMANN and MAUTHNER), 1904, A., i, 192.
- Phenanthradichlorophenazine** (NOELTING and KOPF), 1905, A., i, 873.
- Phenanthrafurandicarboxylic acid**, dihydrate (HINSBERG), 1912, A., i, 895.
- Phenanthrafurazan**, **2:7-dibromo-** (SCHMIDT and MEZGER), 1908, A., i, 16.
- 3-nitro-** (SCHMIDT and SÖLL), 1908, A., i, 996.
- Phenanthranil** and its acetyl derivative and its lactim ester (JAPP and KNOX), 1905, T., 682 ; P., 153.
- Phenanthranilic acid**, ethyl ester (JAPP and KNOX), 1905, T., 682.
- Phenanthraphenazine** (SCHMIDT and SÖLL), 1908, A., i, 995.
- bromo-derivatives** (SCHMIDT), 1904, A., i, 1033 ; (SCHMIDT and JUNGHAUS), 1904, A., i, 1033, 1034 ; (SCHMIDT and LADNER), 1904, A., i, 1035.
- nitro derivatives** (SCHMIDT and KÄMPF), 1904, A., i, 70, 71.
- Phenanthraphenazine**, **4-amino-** and **4-hydroxy-** (SCHMIDT and SCHAIRER), 1911, A., i, 387.
- 10:12-dibromo-** (JACKSON and RUSSE), 1906, A., i, 307.
- 3-bromodinitro-** (SCHMIDT and LUMPF), 1910, A., i, 166.
- 9-chloro-** and its derivatives and **2-chlorodinitro-** (SCHMIDT and SAUER), 1912, A., i, 35.
- Phenanthraphenazinearsinic acid** (BERTHEIM), 1911, A., i, 1056.
- ψ-Phenanthraphenazoxine** (KEHRMANN), 1905, A., i, 930.
- Phenanthraphenazoxonium** perbromide and hydrogen sulphate (KEHRMANN), 1905, A., i, 930.
- Phenanthraquinhydrone**, **2:7-dinitro-** (SCHMIDT and BAUER), 1906, A., i, 26.
- Phenanthraquinol**, synthesis of acyl derivatives of (KLINGER and ROERDANSZ), 1911, A., i, 633.
- 4-amino-**, hydrochloride (SCHMIDT and SCHAIRER), 1911, A., i, 386.
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- 4-nitro-5-amino-**, hydrochloride of (SCHMIDT and LEIPPRAND), 1906, A., i, 25.
- 9:10-Phenanthraquinoline**, synthesis of, and its salts (HERSCHMANN), 1908, A., i, 683.
- Phenanthraquinone**, oxidation of, in presence of aromatic hydrocarbons (BENRATH and V. MEYER), 1912, A., i, 876.
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- 9-Phenanthreneazo- $\beta$ -naphthol** (SCHMIDT and STROBEL), 1903, A., i, 692.
- 5:5'-Phenanthrenebis-3-ethylrhodanic acid** (BUTSCHER), 1911, A., i, 333.
- 5:5'-Phenanthrenebis-3-phenylrhodanic acid** (BUTSCHER), 1911, A., i, 333.

- Phenanthrene-9-carboxylic acid**, 10-amino-. See Phenanthranilic acid.
- 3-bromo-** (PSCHORR and SCHÜTZ), 1906, A., i, 850.
- 8-bromo-** (PSCHORR and TREIDEL), 1912, A., i, 766.
- 2-hydroxy-**, and its acetyl derivative (PSCHORR and QUADE), 1906, A., i, 851.
- Phenanthrene-2- and -3-carboxylic acids**, 3- and 2-hydroxy-, and their salts, acetyl derivatives and methyl esters (WERNER and KUNZ), 1903, A., i, 173.
- Phenanthrene-9-carboxylic anhydride**, 8-amino- (PSCHORR and POPOVICI), 1906, A., i, 851.
- Phenanthrene-8:9-dicarboxylic acid** and its anhydride and imide (PSCHORR and TAPPEN), 1906, A., i, 850.
- Phenanthrene-9:10-diketodicarboxylic anhydride** and its silver salt (WILLGERODT and ALBERT), 1911, A., i, 883.
- Phenanthrene-2-sulphonic acid**, chloride, salts and esters of (SANDQVIST), 1911, A., i, 190.
- Phenanthrene-3-sulphonic acid** and its derivatives (SANDQVIST), 1909, A., i, 779.
- Phenanthrene-10-sulphonic acid** and its salts and derivatives (SANDQVIST), 1912, A., i, 848.
- Phenanthreno-*N*-methyltetrahydro-papaverine methiodide** (PSCHORR, STÄHLIN, and SILBERBACH), 1904, A., i, 612.
- Phenanthridine methiodide**, constitution of the cyanide and hydroxide from (TINKLER), 1906, T., 856; P., 135.
- Phenanthridone**, preparation of derivatives of (BADISCHE ANILIN- & SODA-FABRIK), 1911, A., i, 1026.
- Phenanthroanthraquinone**, preparation of (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1908, A., i, 808.
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- $\psi$ -Phenanthroline**, derivatives of (KAUFMANN, RADOSEVIĆ, HÜSSY, and DAMJE), 1909, A., i, 608.
- Phenanthrone**, 9:9- and 10:10-*dichloro*-3-nitro- (SCHMIDT and SÖLL), 1908, A., i, 997.
- 10-Phenanthrone**, 9:9-*dichloro*-, phenanthrene derivatives from (SCHMIDT and LUMPP), 1909, A., i, 34.
- 9-Phenanthroxylacetoxyacetoacetic acid**, ethyl ester (RICHARDS), 1910, T., 1459; P., 195.
- Phenanthroxylacetoxymalonic acid**, ethyl ester (RICHARDS), 1910, T., 1457; P., 195.
- Phenanthroxylenephenylacetone** and its isomeride, and their phenylhydrazones and dibromides (LANG), 1905, A., i, 292.
- 2-Phenanthryl ethyl ether**, and its 10-amino- and 10-nitro-derivatives (HENSTOCK), 1906, T., 1528; P., 235.
- 3-Phenanthryl ethyl ether**, 10-amino- and 2:7-*dibromo*-10-nitro- (HENSTOCK), 1906, T., 1531; P., 236.
- 9-Phenanthryl oxide** (JAPP and KNOX), 1905, T., 684.
- 10-Phenanthryl sulphide**, *di*-9-hydroxy- and its dibenzoyl derivative (SCHMIDT and SAUER), 1912, A., i, 36.
- 9-Phenanthrylacetamide** (WILLGERODT and ALBERT), 1911, A., i, 882.
- 9-Phenanthrylacetic acid** (WILLGERODT and ALBERT), 1911, A., i, 882.
- 10-Phenanthrylacetic acid**, 9-hydroxy- and its barium and sodium salts (RICHARDS), 1910, T., 1458; P., 195.
- Phenanthryl-10-amine**, *di*-9-hydroxy- (SCHMIDT and LUMPP), 1910, A., i, 313.
- Phenanthryl-9-glyoxylic acid**, 10-hydroxy-, lactone of, and its barium salt and phenylhydrazone (MEYER and SPENGLER), 1905, A., i, 220, 362; (SCHARWIN), 1905, A., i, 448.
- 9-Phenanthrylmethylcarbinol** and its acetate (PSCHORR), 1906, A., i, 820.
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- Phenaziminobenzene**, 4-chloro- (ULLMANN, DELÉTRA, and KOGAN), 1904, A., i, 776.
- Phenazine**,  $C_{21}H_{12}O_2N_2$ , from 4:5-diaminomethylenedioxybenzene (MAMELI), 1909, A., i, 712.
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- Phenazine**, *diamino*- (WILLSTÄTTER and PFANNENSTIEL), 1905, A., i, 723.
- and 3-amino-2-hydroxy-, and its acetyl derivatives (ULLMANN and MAUTHNER), 1903, A., i, 199.
- 7-bromo- and 7-chloro-2:3-*diamino*-, and 7-bromo- and 7-chloro-2-amino-3-hydroxy-, and their salts (ULLMANN and MAUTHNER), 1904, A., i, 192.
- 2:7-*dibromo*-, 2:7-*dichloro*-, and 2:7-*di*-iodo-, and their 5:10-oxides (BAMBERGER and HAM), 1911, A., i, 684.



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- Phenazine-2:7-bisarsinic acid** and its tetrasodium salt (BARROWCLIFF, PYMAN, and REMFRY), 1908, T., 1900.
- Phenazinecarboxylic acid**, 2-amino-3-hydroxy- (ULLMANN and MAUTHNER), 1904, A., i, 193.
- Phenazine-5:10-oxide** and its bromo- and nitro-derivatives (WOHL and AHLERT), 1904, A., i, 201.
- Phenazonium methyl nitrate**, 2:3-diamino- (ULLMANN), 1903, A., i, 395.
- Phenazothionium**, the intramolecular rearrangement of the haloids of (PAGE and SMILES), 1910, T., 1112; P., 133.
- chloride (BARNETT and SMILES), 1909, T., 1265; P., 195.
- hydroxide and its salts (MÖHLAU, BEYSLAG, and KÖHRES), 1912, A., i, 212.
- tri-* and *tetra-chloro-* (BRADY and SMILES), 1910, T., 1562.
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- tetranitro-*, reactions of, and sodium derivative (BARNETT and SMILES), 1909, T., 1259; P., 195.
- Phenazothionium**, 3:5-diamino-, 5-acetyl derivative, salts of (KEHRMANN and STEINBERG), 1911, A., i, 1034.
- Phenazoxonium chloride**, diamino-, and its derivatives (FORMÁNEK), 1907, A., i, 88.
- Phenazoxonium**, 5-amino-, and 3:5-diamino-, 5-acetyl derivative, salts of (KEHRMANN and LÖWY), 1911, A., i, 1033.
- Phenyltribenzoic acid**. See 1:3:5-Triphenylbenzene-2':2'':2'''-tricarboxylic acid.
- Phenetidil-acetonedicarboxylic acid**, ethyl ester (SCHROETER and SCHWAM-BORN), 1905, A., i, 820.
- o*-**Phenetidine**, 5-chloro-, and its acetyl derivative (ORTON and KING), 1911, T., 1190.
- 3:5-dinitro-, and its *N*-alkyl derivatives (BLANKSMA), 1905, A., i, 431.
- m*-**Phenetidine** (3-ethoxyaniline), 2:4:6-tribromo-3-nitro- and 3-nitro- (BLANKSMA), 1905, A., i, 431.
- m*-**Phenetidine** (3-ethoxyaniline), 2:6-dinitro- (BLANKSMA), 1908, A., i, 158.
- p*-**Phenetidine**, action of ethyl acetylsuccinate and ethyl diacetylsuccinate on (ROSSI), 1906, A., i, 982.
- acetyl derivative. See Phenacetin.
- ethylsulphone derivatives of, and their pharmacological importance (AUTENRIETH and BERNHEIM), 1905, A., i, 47.
- thioacyl derivatives of (SACHS and LOEVY), 1904, A., i, 307.
- guaiacolsulphonate (TAGLIAVINI), 1909, A., i, 224.
- phenoxide (BISCHOFF and FRÖHLICH), 1907, A., i, 28.
- p*-**Phenetidine**, 5-chloro-, and its hydrochloride and acetyl derivative (ORTON and KING), 1911, T., 1190.
- 2:6-dinitro-, derivatives of, and *tri-nitro-* (REVERDIN), 1912, A., i, 963.
- p*-**Phenetidine series**, asymmetric ammonium salts of the (WEDEKIND and FRÖHLICH), 1907, A., i, 409.
- $\gamma$ -**Phenetidino- $\alpha$ -phenoxypropanol** (FOURNEAU), 1910, A., i, 247.
- p*-**Phenetidine-*o*-sulphonic acid** (AKTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION), 1904, A., i, 310.
- p*-**Phenetidinesulphonic acid**, 2-chloro-, azo-derivative of (AKTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION), 1908, A., i, 1023.
- p*-**Phenetidineurethaneacetamide** (A. and L. LUMIÈRE and BARBIER), 1906, A., i, 245.
- p*-**Phenetidinomethyleneacetoacetyl-*p*-phenetidide** (DAINS and BROWN), 1909, A., i, 781.
- o*-**Phenetidinomethyleneacetylacetone** (DAINS and BROWN), 1909, A., i, 782.
- o*-**Phenetidinomethylenemalonic acid**, ethyl ester, *o*-phenetidide of (DAINS and BROWN), 1909, A., i, 781.
- 4-*p*-**Phenetidinomethylene-1-phenyl-3-methyl-5-pyrazolone** (DAINS and BROWN), 1909, A., i, 782.
- $\beta$ -**Phenetidino- $\beta$ -phenyl- $\alpha$ -lactic acids**, isomeric (ERLENMEYER and BARROW), 1906, A., i, 237.
- 3-*p*-**Phenetidino-1-phenyltriazole** and its hydrochloride (FROMM and VETTER), 1907, A., i, 984.
- 5-*p*-**Phenetidino-1-phenyltriazole**, 3-amino-, and its hydrochloride and acetyl derivative (FROMM and VETTER), 1907, A., i, 984.
- 2-*p*-**Phenetidinopyridine** (2-*p*-ethoxyanilino)pyridine (FISCHER and MERL), 1903, A., i, 52.

**$\beta$ -Phenetidinotricarballylic acid** and its ethyl ester and its amide, imide, imide-acid, and nitrile (SCHROETER and SCHWAMBERG), 1905, A., i, 820.

***p*-Phenetidylglycyl guaiacolsulphonate** (TAGLIAVINI), 1909, A., i, 224.

**$\alpha$ -*p*-Phenetidylstilbene**, and  **$\beta$ -bromo-**, and its *dibromo-derivative* (BUSIGNIES), 1910, A., i, 668.

**Phenetole**, aldioximation of, by means of mercury fulminate and aluminium oxychloride (SCHOLL and KREMPER), 1903, A., i, 348.

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**Phenetole**, 2:5-*diamino-*, *N*-dibenzoyl derivative, and 5-nitro-2-amino- (JACOBSON and HÖNIGSBERGER), 1904, A., i, 207.

*p*-aminothio-, *p*-iodothio-, and their derivatives (WILLGERODT and KLINGER), 1912, A., i, 255.

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*p*-bromo-, action of sulphur on the organo-magnesium compounds of (TABOURË), 1905, A., i, 644.

*p*-mono-, and 2:4-*di*-bromo- and -chloro- (AUTENRIETH and MÜHLINGHAUS), 1907, A., i, 32.

*pentabromo-* (BONNEAUD), 1910, A., i, 670.

3-bromo-2:4:6-*tri*-iodo-5-nitro- (JACKSON and BIGELOW), 1912, A., i, 102.

2:5-*di*-bromo-4- and -6-nitro- (JACKSON and CALHANE), 1903, A., i, 159.

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5-chloro-2-*mono-* and -2:4:6-*tri*-nitro- (BLANKSMA), 1903, A., i, 158.

3-chloro-4:6-*dinitro-* (BLANKSMA), 1904, A., i, 577.

*p*-iodoxy- (LIEBRECHT), 1906, A., i, 257.

*s*-*dinitro-*, nitration and reduction of (BLANKSMA), 1905, A., i, 431.

2:3-*di*- and 2:3:4-*tri*-nitro-, and 2:4-*dinitro*-3-hydroxy- (BLANKSMA), 1908, A., i, 157.

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3:4-*dinitro*-2-cyano- (BLANKSMA), 1908, A., i, 271.

*p*-nitroso- (RISING), 1904, A., i, 238.

**Phenetoleazobenzaldehydesulphonic acid**, metallic salts and phenylhydrazones of (GREEN and SEN), 1910, T., 2243.

**1-*p*-Phenetoleazo-2-chloronaphthalene** (CHARRIER and FERRERI), 1911, A., i, 1046.

***o*-Phenetoleazoglutacononic acid**, ethyl ester, *o*-phenetylhydrazones (HENRICH, REICHENBURG, NÄCHTIGALL, THOMAS, and BAUM), 1910, A., i, 902.

***p*-Phenetoleazo- $\alpha$ -hydroxynaphthoic acid** (SIRCAR and WATSON), 1912, A., i, 1037.

**5-*p*-Phenetoleazo-8-hydroxyquinoline**, and its hydrochloride and sodium salt (FOX), 1910, T., 1344.

*o*- and *p*-Phenetoleazo- **$\beta$ -naphthol** (CHARRIER and FERRERI), 1911, A., i, 1046.

1-*o*- and -*p*-Phenetoleazo-2-naphthyl ethyl ethers and their hydrochlorides (CHARRIER and FERRERI), 1912, A., i, 814.

***p*-Phenetoleazosalicylic acid** and its acetyl derivative (GRANDMOUGIN and GUISSAN), 1908, A., i, 927.

**Phenetoleazosulphobenzylidene-aminoazobenzene**, potassium salt (GREEN and SEN), 1910, T., 2246.

**Phenetoleazosulphobenzylidene-*p*-aminophenol**, potassium salt (GREEN and SEN), 1910, T., 2245.

**Phenetoleazosulphobenzylideneamino-salicylic acid**, potassium salt (GREEN and SEN), 1910, T., 2245.

**Phenetoleazosulphobenzylideneaniline** and its *p*-sulphonic acid (GREEN and SEN), 1910, T., 2244.

**Phenetoleazosulphobenzylidene- $\alpha$ - and - $\beta$ -naphthylamine**, potassium salts (GREEN and SEN), 1910, T., 2246.

**Phenetoleazosulphobenzylidene-*p*-nitroaniline**, potassium salt (GREEN and SEN), 1910, T., 2245.

**Phenetoleazosulphobenzylidene-*p*-phenylenedimethyldiamine**, potassium salt (GREEN and SEN), 1910, T., 2245.

**Phenetoleazosulphophenyl-*di*-hydroxy-diphenyl- and -dimethyldiphenyl-methanedicarboxylic acid** (GREEN and SEN), 1912, T., 1115.

**Phenetoleazosulphophenyl-*di*-hydroxyditolylcarbinoldicarboxylic acid** (GREEN and SEN), 1912, T., 1116.

***p*-Phenetolesulphon-acetonitrile** and ethenylaminoxime (TRÖGER and VOLKMER), 1905, A., i, 356.

***p*-Phenetolesulphondialkylacetoneitriles** (TRÖGER and VASTERLING), 1905, A., i, 871.

**Phenetoylacrylic acid** (KOZNIEMSKI and MARCHLEWSKI), 1906, A., i, 759.

- Phenetylaldehyde**, *p*-thio-, preparation of, and its azine, phenylhydrazone, and semicarbazone (MONIER-WILLIAMS), 1906, T., 278; P., 22.
- p*-**Phenetyl butyl ketone** and its semicarbazone (LAYRAUD), 1906, A., i, 433.
- Phenetyl-4-diazobisacetoxime** (BRESLER, FRIEDEMANN, and MAI), 1906, A., i, 322.
- p*-**Phenetyldiguanide** and its derivatives (COHN), 1911, A., i, 928.
- Phenetyldiguanides**, *o*- and *p*-, and their salts (A. and L. LUMIERE and PERRIN), 1905, A., i, 250.
- p*-**Phenetyldimethyl- $\alpha$ -naphthamidine** and its platinumchloride (V. BRAUN), 1904, A., i, 689.
- o*- and *p*-**Phenetyldimethylsulphine hydroxides**, salts of (KEHRMANN and SAVA), 1912, A., i, 968.
- p*-**Phenetylguanidophenylthiocarbamide** and its acetyl, anhydro-, and benzyl derivatives (FROMM and VETTER), 1907, A., i, 933.
- m*-**Phenetylhydroxylamine** (BAMBERGER and CZERKIS), 1904, A., i, 238.
- p*-**Phenetylhydroxylamine** (RISING), 1904, A., i, 237.
- 3-*p*-Phenetyl-2-methyl-4-dihydroquinaz-  
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- methiodide (BOGERT and GEIGER), 1912, A., i, 511.
- 3-*p*-Phenetyl-2-methyl-4-dihydroquinaz-  
olone**, 7-amino-, acetyl derivative (BOGERT, AMEND, and CHAMBERS), 1910, A., i, 895.
- Phenetyl methyl ketone**, *o*-iododichloride, and *o*-iodo- (WILLGERODT and BURKHARD), 1912, A., i, 630.
- S*-**Phenetyl-*N*-methyl-3:9-dinitrophen-  
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- S*-**Phenetyl-*N*-methylphenazothionium** salts (SMILES and HILDITCH), 1907, P., 306.
- S*-**Phenetyl-3:9-dinitrophenazothionium**, hydroxide and salts (SMILES and HILDITCH), 1907, P., 306; 1908, T., 149.
- S*-**Phenetylphenazothionium**, tetrachloro- (BRADY and SMILES), 1910, T., 1561.
- tetranitro-, hydroxide and sulphate (BARNETT and SMILES), 1910, T., 368.
- S*-**Phenetylphenazothionium hydroxide**,  $\alpha$ -3:9-dinitro- (SMILES and HILDITCH), 1908, T., 1694.
- 3-*p*-Phenetyl-2-styryl-4-dihydroquin-  
azolone** (BOGERT and BEAL), 1912, A., i, 394.
- p*-**Phenetylsulphinic acid**, alkaloidal salts, and their rotatory power (HILDITCH), 1908, T., 1621.
- p*-**Phenetylsulphonic acid**, alkaloidal salts, and their rotatory power (HILDITCH), 1908, T., 1621.
- p*-**Phenetylthiobiuret** (FROMM and VETTER), 1907, A., i, 983.
- S*-**Phenetylthionine** and its hydroxide and salts (SMILES and HILDITCH), 1908, T., 1695.
- p*-**Phenetylthiouret** hydrochloride (FROMM and VETTER), 1907, A., i, 983.
- Phenetyl-**. See also Ethoxybenzene- and Ethoxyphenyl-.
- iso***Pheno-1:3:4-diazosulphonine** (EKBOM), 1903, A., i, 411.
- Phenocycloheptene** (KIPPING and HUNTER), 1903, T., 246; P., 11.
- Phenol**,  $C_{14}H_{14}O$ , and its phenylurethane, from the reduction of 2-phenylcoumaran (STOERMER and REUTER), 1904, A., i, 181; (STOERMER and KIPPE), 1904, A., i, 183.
- Phenol**, preparation of, from cyclohexanol (KÖRTZ and GÖTZ), 1908, A., i, 173.
- dielectric constants of, dissolved in benzene and *m*-xylene (PHILIP and HAYNES), 1905, T., 1001; P., 200.
- condition diagram of (TAMMANN), 1903, A., ii, 15.
- stability of the two crystalline modifications of (TAMMANN), 1910, A., ii, 1051.
- viscosity of, in the liquid state (SCARPA), 1903, A., ii, 640.
- viscosity of mixtures of water and (SCARPA), 1904, A., i, 492.
- conductivity of (LUNDÉN), 1910, A., i, 245.
- and camphor, freezing-point curve for mixtures of (WOOD and SCOTT), 1910, T., 1573; P., 194.
- freezing-point surfaces of the system: chlorobenzene, naphthalene, and, and the molecular association of (HIROBE), 1908, A., ii, 928.
- freezing-point curves of mixtures of naphthalene and (YAMAMOTO), 1908, A., ii, 928.
- molecular complexity of salts in (HARTUNG), 1911, A., ii, 697.
- hydrochloric acid, and water, equilibrium in the system (SCHREINEMAKERS and VAN DER HORN VAN DER BOS), 1912, A., ii, 543.
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**Phenol**, the system : water and (SMITS and MAARSE), 1911, A., ii, 870.  
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**Phenol**, estimation of, as tribromophenol bromide (AUFENRIETH and BEUTTEL), 1910, A., ii, 552.

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*p*-amino-, and its derivatives, electrolytic preparation of (DARMSTÄDTER), 1904, A., i, 664, 1001.

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*N*-acetyl derivative, nitration of (MELDOLA and STEPHENS), 1905, T., 1203; P., 218.

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*o*- and *p*-amino-, action of benzyl chloride on (BAKUNIN), 1906, A., i, 496.

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*m*-bromo-, preparation of (DIELS and BUNZL), 1905, A., i, 432.  
*p*-bromo-, and tribromo-, action of, with toluene and aluminium chloride (KOHN and BUM), 1912, A., i, 760.  
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- Phenol-2:4:6-trisazobenzene**. See 2:4:6-Trisbenzenesazophenol.
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- Phenomenon of dilution** (URBAIN and SCAL), 1907, A., ii, 61.
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- 1:2-Phenonaphthacarbazole-*N*-sulphonic acid** and its barium and sodium salts (BUCHERER and SEYDE), 1908, A., i, 455.
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- Phenophenanthracridine**, preparation of (AUSTIN), 1908, T., 1765; P., 200.
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- thio-, constitution of (POSNER), 1909, A., i, 809.
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- sodium salt (ULLMANN and WOSNESSENSKY), 1909, A., i, 475.
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- Phenothioxin** and its dioxide and 2-carboxylic acid and its 4-amino- and 4-nitro-derivatives (MAUTHNER), 1906, A., i, 447.
- formation of (FERRARIO), 1911, A., i, 555.
- synthesis of derivatives of, and 2:7-dichloro-, and its oxides (HILDITCH and SMILES), 1911, T., 413; P., 44.
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- reactions of, with nitrophenyl esters of  $\alpha$ -bromo-fatty acids (BISCHOFF, AMBARDANOFF, and SCHMÄHLING), 1907, A., i, 35.
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- preparation of (FARBENFABRIKEN FORM. F. BAYER & Co.), 1910, A., i, 764.
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- thulium salt (JAMES), 1911, A., ii, 892.
- ethyl ester, condensation of, with benzaldehyde (STOERMER and KIPPE), 1905, A., i, 526.
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- benzoyl derivative, and its nitro-derivatives, and 3-nitro-4-amino-, and its barium salt, and 2:6-dinitro-4-amino- (REVERDIN and DE LUC), 1909, A., i, 913.
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- p*-Phenoxyacetophenone** (KIPPER), 1905, A., i, 648.

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- Phenoxyacetylacetoacetic acid, ethyl ester (WEIZMANN, DAVIES, and STEPHEN), 1912, P., 103.
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- Phenoxyacetylthiocarbimide and its reactions (DIXON), 1906, T., 908; P., 147.
- $\beta$ -Phenoxyacrylamides, synthesis of  $\beta$ -substituted derivatives of (MOUREU and LAZENNEC), 1906, A., i, 432.
- $\alpha$ -Phenoxyacrylic acid,  $\beta$ -hydroxy-, ethyl ester, and its sodium derivative (JOHNSON and HEYL), 1907, A., i, 729.
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- $\epsilon$ -Phenoxyamyl alcohol and its phenylurethane (v. BRAUN, DEUTSCH, and SCHMATLOCH), 1912, A., i, 433.
- $\epsilon$ -Phenoxyamylamine, benzoyl derivative (v. BRAUN and STEINDORFF), 1905, A., i, 206.
- $\epsilon$ -Phenoxyamyltrimethylammonium hydroxide and iodide (v. BRAUN), 1911, A., i, 612.
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- p*-Phenoxybenzoylbenzoic acid (KIPPER), 1905, A., i, 648.
- $\beta$ -*p*-Phenoxybenzoylpropionic acid (KIPPER), 1905, A., i, 648.
- 1- $\alpha$ -Phenoxybenzyl-2-naphthol-3-carboxylic acid, methyl ester of (FRIEDL), 1910, A., i, 742.
- $\delta$ -Phenoxybutane,  $\alpha$ -chloro- and  $\alpha$ -iodo- (v. BRAUN and BESCHKE), 1907, A., i, 127.
- 4-Phenoxy-1-isobutylphthalazine (WÖBLING), 1906, A., i, 48.
- 1- $\delta$ -Phenoxybutylpiperidine and its salts (ALBERT), 1909, A., i, 178.
- $\delta$ -Phenoxybutyltrimethylammonium hydroxide and its salts (v. BRAUN), 1911, A., i, 612.
- $\gamma$ -Phenoxybutyramide (v. BRAUN and BESCHKE), 1907, A., i, 80.
- $\gamma$ -Phenoxybutyric acid,  $\alpha$ -amino- and  $\alpha$ -bromo- (FISCHER and BLUMENTHAL), 1907, A., i, 191.
- $\alpha$ -Phenoxy-*n*- and -isobutyric acids, phenyl esters (BISCHOFF and WACHTSMUTH), 1907, A., i, 33.
- $\gamma$ -Phenoxy- $\alpha$ -*p*-chlorophenylacetoacetic acid, ethyl and methyl esters and their derivatives (v. WALTHER and HERSCHTEL), 1911, A., i, 238.
- $\gamma$ -Phenoxy- $\alpha$ -*p*-chlorophenylcrotononitrile,  $\beta$ -amino- (v. WALTHER and HERSCHTEL), 1911, A., i, 238.
- Phenoxydichloropropane (BOYD and MARLE), 1908, T., 841; P., 92.
- $\alpha$ -Phenoxycyanamic acid, elimination of carbon monoxide and carbon dioxide from (STOERMER and BIESENACH), 1905, A., i, 524.  
aniline salt (STOERMER and KIPPE), 1905, A., i, 527.
- Phenoxydiphenetylsulphonium salts (BARNETT and SMILES), 1908, P., 123.

- Phenoxydiphenylsulphonium** salts (BARNETT and SMILES), 1908, P., 124.
- $\beta$ -Phenoxydistyryl ketone** (*dibenzylidene*phenoxyacetone) (STOERMER and WEHLN), 1903, A., i, 41.
- $\alpha$ -Phenoxydi-*p*-tolylethylene** (STOERMER, SCHENCK zu SCHWEINSBERG, SIBBERN-SIBBERS, and RIEBEL), 1906, A., i, 582.
- $\alpha$ -Phenoxyethylene** and its  $\omega$ -bromo-derivatives (SLIMMER), 1903, A., i, 249.
- $\beta$ -Phenoxyethylenic ketones**, action of hydrazine and of hydroxylamine on (MOUREU and BRACHIN), 1904, A., i, 824.
- $\gamma$ -Phenoxyethylmalonic acid**, ethyl ester (PYMAN), 1912, T., 535.
- $\gamma$ -Phenoxyethylmalonic acid**,  $\alpha$ -bromo- (FISCHER and BLUMENTHAL), 1907, A., i, 191.
- 4-Phenoxy-1-ethylphthalazone** (DAUBE), 1905, A., i, 210.
- 5-Phenoxy-2-ethylthioldihydro-6-pyrimidone** (JOHNSON and HEYL), 1907, A., i, 729.
- Phenoxyfumaric acid** and its ethyl ester (RAP), 1903, A., i, 49.
- $\zeta$ -Phenoxyheptoic acid** and its silver salt (v. BRAUN), 1907, A., i, 110.
- $\eta$ -Phenoxyheptylamine** and its salts, acyl derivatives, and carbamate (v. BRAUN and MÜLLER), 1907, A., i, 29.
- $\epsilon$ -Phenoxyhexoic acid** and its silver salt and amide (v. BRAUN and STEINDORFF), 1905, A., i, 342.
- $\epsilon$ -Phenoxyhexonitrile** (v. BRAUN and STEINDORFF), 1905, A., i, 207.
- $\zeta$ -Phenoxyhexyl alcohol** and its phenylurethane (v. BRAUN, DEUTSCH, and SCHMATLOCH), 1912, A., i, 433.
- $\zeta$ -Phenoxyhexylamine** and its additive salts and derivatives (v. BRAUN and STEINDORFF), 1905, A., i, 826.
- Phenoxy malonic acid**, *o*-, *m*-, and *p*-nitro-, esters (BISCHOFF), 1907, A., i, 773.
- 2-Phenoxy-4-methoxybenzoic acid** (ULLMANN and WAGNER), 1907, A., i, 848.
- 2-Phenoxy-5-methoxybenzoic acid** (ULLMANN and KIPPER), 1905, A., i, 596.
- Phenoxy methoxymalonic acid**, *p*-nitro-, methyl ester (BISCHOFF), 1907, A., i, 775.
- Phenoxy methoxymethane**. See Methylene phenyl methyl ether.
- $\alpha$ -Phenoxy-*p*-methoxystyryl methyl ketone** (*p*-methoxybenzylidenephenoxyacetone) and its derivatives (STOERMER and WEHLN), 1903, A., i, 40.
- Phenoxy methyl anisyl, *p*-ethoxyphenyl, and 1:3-dimethoxyphenyl ketones** (STOERMER and ATENSTÄDT), 1903, A., i, 42.
- 4(or 1)-Phenoxy-5-methylantraquinone, 1(or 4)-chloro-8-hydroxy-** (WALSH and WEIZMANN), 1910, T., 690.
- $\gamma$ -Phenoxy- $\alpha$ -methylbutyric acid** and its silver salt (v. BRAUN and DEUTSCH), 1912, A., i, 106.
- Phenoxy methyl diethylcarbinol** and its phenylurethane (STOERMER, SCHENCK zu SCHWEINSBERG, SIBBERN-SIBBERS, and RIEBEL), 1906, A., i, 582.
- Phenoxy methyl ethyl ketone** and its derivatives (BLAISE and PICARD), 1911, A., i, 175.
- 4-Phenoxy-3-methyltritanic acid** and its anhydride (v. LIEBIG), 1908, A., i, 541.
- Phenoxy pentane** and  $\epsilon$ -nitro- (v. BRAUN, DEUTSCH, and SCHMATLOCH), 1912, A., i, 433.
- Phenoxy pentane**,  $\epsilon$ -bromo-,  $\epsilon$ -chloro-,  $\epsilon$ -cyano-, and  $\epsilon$ -iodo- (v. BRAUN and STEINDORFF), 1905, A., i, 341.
- $\epsilon$ -Phenoxy pentylpyrrolidine** and its salts (ALBERT), 1909, A., i, 178.
- 5-Phenoxy-4-phenoxy methyl tetrahydro-6-pyrimidone, 2-thio-** (JOHNSON and HILL), 1912, A., i, 912.
- Phenoxy phenylacetamide** (BUCHERER and GROLEE), 1906, A., i, 351.
- $\gamma$ -Phenoxy- $\alpha$ -phenylacetacetamide** (v. WALTHER and HERSCHEL), 1911, A., i, 238.
- $\gamma$ -Phenoxy- $\alpha$ -phenylcrotononitrile,  $\beta$ -amino-** (v. WALTHER and HERSCHEL), 1911, A., i, 237.
- $\alpha$ -Phenoxy- $\beta$ -phenylhydracrylic acid** and its acetyl derivative and aniline and sodium salts (STOERMER and KIPPE), 1905, A., i, 527.
- $\epsilon$ -Phenoxy- $\alpha$ -phenyl- $\alpha$ -methylpropyl-pentamethylenediamine,  $\epsilon$ -cyano-** (v. BRAUN), 1909, A., i, 508.
- $\gamma$ -Phenoxy- $\alpha$ -phenylpropane,  $\beta$ -hydroxy-** (FOURNEAU), 1910, A., i, 246.
- $\alpha$ -Phenoxypropane,  $\gamma$ -chloro- $\beta$ -hydroxy-** (FISCHER and KRÄMER), 1908, A., i, 858.
- phenylurethane of (BOYD and MARLE), 1910, T., 1789; P., 209.
- $\gamma$ -chloro- $\beta$ -hydroxy-*s*-tribromo-, and  $\gamma$ -chloro- $\beta$ -hydroxy-*p*-nitro-, and their phenylurethanes** (MARLE), 1912, T., 313.
- $\gamma$ -nitro-** (v. BRAUN, DEUTSCH, and SCHMATLOCH), 1912, A., i, 433.
- Phenoxypropanolamines** (BOYD), 1910, T., 1791; P., 209.



- Phenoxypropionaldoxime** (V. BRAUN, DEUTSCH, and SCHMATLOCH), 1912, A., i, 433.
- $\alpha$ -Phenoxypropionic acid**, phenyl ester (BISCHOFF and WACHTSMUTH), 1907, A., i, 33.
- $\alpha$ -Phenoxypropionic acid**, *o*-, *m*-, and *p*-nitro-, *o*-, *m*-, and *p*-nitrophenyl esters, and chlorides (BISCHOFF, AMBARDANOFF, and SCHMÄHLING), 1907, A., i, 36.
- $\alpha$ -Phenoxypropionyl chloride** (STOERMER and ATENSTÄDT), 1903, A., i, 42.
- $\gamma$ -Phenoxypropyl iodide** and the action of sodium on (HAMONET), 1903, A., i, 251.
- $\beta'$ -Phenoxyisopropyl alcohol**,  $\beta$ -amino-, and its salts (BOYD), 1910, T., 1791; P., 209.
- Phenoxypropylene bromohydrin** (FOURNEAU), 1910, A., i, 246.
- Phenoxypropylmethylaniline** and its picrate (V. BRAUN), 1909, A., i, 507.
- Phenoxypropylpentamethylenediamine**, cyano-, phenyl derivative (V. BRAUN), 1909, A., i, 507.
- $\gamma$ -Phenoxypropylpiperidine** and its hydriodide and methiodide (V. BRAUN), 1909, A., i, 507.
- 1- $\gamma$ -Phenoxypropyltetrahydroquinoline** (JONES and DUNLOP), 1912, T., 1752.
- 2- $\gamma$ -Phenoxypropyltetrahydroisoquinoline** and its hydrochloride (JONES and DUNLOP), 1912, T., 1753.
- $\gamma$ -Phenoxypropyltrimethylammonium iodide** (V. BRAUN), 1911, A., i, 612.
- 5-Phenoxyquinizarin**, 8-chloro- (FREY), 1912, A., i, 477.
- $\beta'$ -Phenoxy- $\beta$ -2:5-quinoyl isobutyric acid**,  $\alpha$ :4:2':5'-tetrahydroxy-, formation of (ENGELS, PERKIN, and ROBINSON), 1908, T., 1155.
- $\omega$ -Phenoxystyrene** and its bromides (STOERMER and BIESENBAACH), 1905, A., i, 525.
- $\alpha$ -Phenoxystyryl methyl ketone** (*benzylidenephenoxyacetone*) and its oxime, phenylhydrazone, and semicarbazone (STOERMER and WEHLN), 1903, A., i, 40.
- o*-hydroxy-, and its semicarbazone (STOERMER and WEHLN), 1903, A., i, 41.
- 5-Phenoxytetrahydro-6-pyrimidone**, 2-thio- (JOHNSON and GUEST), 1909, A., i, 745.
- $\alpha$ -Phenoxytriphenylcarbinol** (ULLMANN and ENGL), 1904, A., i, 682.
- $\alpha$ -Phenoxytriphenylmethane** (V. BAeyer), 1909, A., i, 642.
- 5-Phenoxyuracil** (JOHNSON and GUEST), 1909, A., i, 745.
- Phenoxyvaleraldoxime** (V. BRAUN, DEUTSCH, and SCHMATLOCH), 1912, A., i, 433.
- $\alpha$ -Phenoxyisovaleric acid**, phenyl ester (BISCHOFF and WACHTSMUTH), 1907, A., i, 33.
- $\delta$ -Phenoxy- $\gamma$ -valerolactone** and its  $\alpha$ -carboxylic acid and their bromo-derivatives (FISCHER and KRÄMER), 1908, A., i, 858.
- $\delta$ -Phenoxy- $\gamma$ -valerolactone**, bromo- $\alpha$ -amino-, and its hydrobromide and hydrochloride (FISCHER and KRÄMER), 1908, A., i, 858.
- Phenthiazine**, 2:4-diamino-, stannichloride, and 2:4-dinitro- (MÖHLAU, BEYSCHLAG, and KÖHRES), 1912, A., i, 212.
- Phenuvic acid** and its ethyl ester (BORSCHKE and FELS), 1906, A., i, 509.
- Phenyl acetate**, *o*-amino-, diacetyl derivative (DIEPOLDER), 1911, A., i, 853.
- 4-bromo-2-nitro-**, **4-bromo-2:6-dinitro-**, **2-bromo-4-nitro-**, and **2-bromo-4:6-dinitro-** (VAN ERP), 1910, A., i, 618.
- 2-chloro-4-iodo-**, **2:6-dichloro-4-iodo-**, **2:3:6-trichloro-4-iodo-**, **2:3:5:6-tetrachloro-4-iodo-**, and *p*-iodo-, and their dichlorides (BRAZIER and McCOMBIE), 1912, T., 972.
- acetonyl sulphide**, *o*-nitro- (ZINCKE and FARR), 1912, A., i, 765.
- acetylminodithiolcarbonate** (SPAHR), 1903, A., i, 478.
- alkyl carbonates**, amino-, molecular rearrangement of (STIEGLITZ and UPSON), 1904, A., i, 575; (UPSON), 1904, A., i, 734.
- amino-**, **bromoamino-**, **bromonitro-**, **chloroamino-**, **chloronitro-**, **chlorobromoamino-**, **chlorobromonitro-**, and **nitro-derivatives** and their salts (UPSON), 1904, A., i, 734.
- alkyl ethers**, action of phosphorus pentabromide and pentachloride on (AUTENRIETH and MÜHLINGHAUS), 1907, A., i, 31; (HENRY), 1907, A., i, 206.
- alkyl oxides**, decomposition of, in presence of nickel and hydrogen (MAILHE and MURAT), 1912, A., i, 183.
- $\beta$ -aminoethyl sulphide** and **sulphone hydrochlorides** (GABRIEL and COLMAN), 1912, A., i, 116.
- $\zeta$ -aminohexyl ketone** and its salts (GABRIEL), 1909, A., i, 892.

**Phenyl antimonite** (MACKEY), 1909, T., 608; P., 98.  
**arsenite** (AUGER), 1907, A., i, 109; (LANG, MACKEY, and GORTNER), 1908, T., 1369; P., 150.  
**aryl ethers** (ULLMANN and SPONAGEL), 1907, A., i, 38.  
**benzoate**, 2-chloro-4-iodo-, 2:6-dichloro-4-iodo-, 2:3:6-trichloro-4-iodo-, 2:3:5:6-tetrachloro-4-iodo-, and *pentachloro*-, and their dichlorides (BRAZIER and Mc-COMBIE), 1912, T., 973.  
*o*-benzoylamino-phenyl sulphide, *trinitro*- (MÖHLAU, BEYSCHLAG, and KÖHRES), 1912, A., i, 212.  
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 $\gamma$ -bromo- and  $\gamma\delta$ -dibromo-butyl ether (v. BRAUN and DEUTSCH), 1912, A., i, 106.  
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*trichloromethyl sulphide*, acetyl-aminochloro-, *p*-iodo-, and *p*-nitro- (ZINCKE and JÖRG), 1911, A., i, 40.  
**chlorodithiocarbonate** (RIVIER), 1907, A., i, 838.  
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**chlorothioncarbonate** and its reactions (RIVIER), 1906, A., i, 947.  
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 $\epsilon$ -dimethylaminoamyl ether and its picate (v. BRAUN), 1911, A., i, 612.  
 $\delta$ -dimethylaminobutyl ether (v. BRAUN), 1911, A., i, 612.  
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 $\gamma$ -dimethylaminopropyl ether and its picate (KNORR and ROTH), 1906, A., i, 457.  
**ethers** (COOK and FRARY), 1903, A., i, 163; (COOK and EBERLY), 1903, A., i, 250; (COOK), 1903, A., i, 337; (THOMS), 1903, A., i, 415, 558.  
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*p*-chloro-*o*-amino-, 2- and 4-chloro-2'-amino-, 2- and 4-chloro-4'-amino-, 4:2'- and 4:4'-dichloro-2-amino-, 2:4'-dichloro-4-amino-, and their derivatives (FARBEN-FABRIKEN VORM. F. BAYER & Co.), 1910, A., i, 312.  
*p*-monoiodo-, aromatic, derivatives of, with multivalent iodine (WILLGERODT and WIEGAND), 1909, A., i, 912.  
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*p*-amino-, derivatives of, and colouring matters from (MAILHE), 1912, A., i, 548.  
*p*-amino-, *p*-nitro-, and *trinitro*- (MAILHE and MURAT), 1912, A., i, 346.  
*m*- and *p*-amino-, and the salts and acetyl derivative of the *m*-ether (ULLMANN and SPONAGEL), 1907, A., i, 39.

- Phenyl ether**, *p*-bromo-, *p*-chloro-, and *di-p*-chloro- (MAILHE and MURAT), 1912, A., i, 254.  
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*o*-mono- and *oo'*-*di*-hydroxy-, and their methyl ethers (ULLMANN and STEIN), 1906, A., i, 258.  
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*o*-amino-, and its sulphate and acetyl derivative and *o*-nitro- (MAUTHNER), 1906, A., i, 949.

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*o*-tolyl ether, *p*-nitro-, and its sulphonic acid and its salts (COOK and EBERLY), 1903, A., i, 250.

*p*-amino-, and its salts (COOK and EBERLY), 1903, A., i, 250.

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*p*-nitro-, and its nitro-derivative and sulphonic acid and its salts (COOK and FRARY), 1903, A., i, 163.

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*p*-tolyl sulphide (BOURGEIS and FOUASSIN), 1911, A., i, 964.

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- Phenyl vinyl ether** (WOHL and BERTHOLD), 1910, A., i, 620.
- Phenylacenaphthaphenazonium**, and 2-amino-, and 3-chloro-, and their derivatives and salts (ULLMANN and CASIRER), 1910, A., i, 202.
- $\beta$ -Phenylacenaphthylmethane** and its picric acid derivative (DZIEWOŃSKI and DOTTA), 1904, A., i, 390; (DZIEWOŃSKI and WECHSLER), 1904, A., i, 803.
- Phenylacetaldehyde**, synthesis of (HOUBEN), 1905, A., i, 600.  
fate of, in the animal organism (DAKIN), 1909, A., ii, 684.  
reactions of, and its semicarbazone (AUWERS and KEIL), 1904, A., i, 27.  
diacetate (WOHL and MAAG), 1911, A., i, 14.
- Phenylacetaldehyde**,  $\alpha$ -cyano- (BODROUX), 1910, A., i, 623.  
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- enol*/Phenylacetaldehyde monoacetate. See Phenylvinyl acetate.
- Phenylacetaldehydephenylbenzylhydrazones** (FOURNIER), 1904, A., i, 63.
- Phenylacetaldehyde-phenylhydrazones** and -semicarbazones (HENLE), 1905, A., i, 490.
- Phenylacetaldoxime** (EMDE), 1911, A., ii, 314.  
and *o*-nitro- (WEERMAN), 1909, A., i, 589.  
formation of (BOUVEAULT and WAHL), 1903, A., i, 616.
- Phenylacetamide**, *N*-benzoyl derivative (WHEELER, JOHNSON, and MCFARLAND), 1903, A., i, 859.
- Phenylacetamide**,  $\alpha$ -amino-, and its derivatives and  $\alpha$ -chloroacetylamino-, and  $\alpha$ -oxalylamino- (CLARKE and FRANCIS), 1911, T., 320; P., 22.  
*o*- and  $\alpha$ -bromo- (STEINKOPF and BENEDEK), 1908, A., i, 981; (POPOVICI), 1909, A., i, 28.  
 $\alpha$ -bromonitro- (VAN PESKI), 1909, A., i, 647.  
*o*-bromo- $\alpha$ -isonitro-, potassium salt of, and *o*-*o*-dibromo- $\alpha$ -nitro- (WISLICENUS and FISCHER), 1910, A., i, 622.  
*p*-chloroisonitroso- (ZIMMERMANN), 1903, A., i, 92.  
*o*-nitro- (REISSERT), 1908, A., i, 983; (PSCHORR and HOPPE), 1910, A., i, 737.  
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- Phenylacetamidine**, cyano-, preparation of (PELLIZZARI), 1911, A., i, 1035.
- Phenylacetanilide**, sulphur derivative (REISSERT and MORÉ), 1906, A., i, 827.
- Phenylacetanilide**,  $\alpha$ -cyano- (HESSLER), 1908, A., i, 183.  
2:4-dinitro- (BORSCHKE), 1909, A., i, 232.
- Phenylacethydroxamic acid** and its salts and derivatives (JONES), 1912, A., i, 692.
- Phenylacetic acid** ( *$\alpha$ -toluic acid*), behaviour of, in fowls (TOTANI), 1910, A., ii, 880.  
preparation of anhydride of, and silver salt, action of sulphur monochloride on (DENHAM), 1909, T., 1239; P., 179.  
brucine and cinchonine salts, and their optical activity (HILDITCH), 1908, T., 1390.  
yttrium salt (PRATT and JAMES), 1911, A., ii, 893.  
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glycyl ester (FARBENFABRIKEN VORM. F. BAYER & Co.), 1912, A., i, 974.  
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- Phenylacetic acid**,  $\alpha$ -amino-. See Phenylaminoacetic acid.  
*p*-bromo-, ethyl ester, oximino-, ethyl ester, potassium derivative, and its *p*-nitrobenzoates, oximino-*p*-bromo-, ethyl ester, and its benzoate (WISLICENUS and GRÜTZNER), 1909, A., i, 477.  
*tribromo-m*-hydroxy- (v. PECHMANN, BAUER, and OBERMILLER), 1904, A., i, 593.  
*tetrabromo-p*-hydroxy-, and its methyl ester, and their acetyl derivatives, amide, and nitrile and its acetyl derivative and quinone (ZINCKE and BÖTTCHER), 1906, A., i, 166.  
*tetrachloro-p*-hydroxy- (ZINCKE and BÖTTCHER), 1906, A., i, 739.  
*dichlorotrinitro*-, ethyl ester (JACKSON and SMITH), 1904, A., i, 802.

**Phenylacetic acid**, trichlorodinitro-, and its ethyl ester (JACKSON and CARLTON), 1904, A., i, 486.

**$\alpha$ -cyano-**. See Phenylecyanoacetic acid.

***p*-hydroxy-**, preparation of (ALOY and RABAUT), 1911, A., i, 780.

**2:5-*d*ihydroxy-**. See Homogentisic acid.

***o*-nitro-**, *N*-hydroxyindole derivatives from (REISSERT), 1909, A., i, 51.

***p*-nitro-**, oximino-derivative of ethyl ester (BORSCHÉ), 1909, A., i, 925.

***o*- and *p*-nitro-**, ethyl esters, reactivity of the methylene groups in (BORSCHÉ), 1909, A., i, 925.

**2:6-*d*initro-**, and its methyl ester (BORSCHÉ and RANTSCHÉFF), 1911, A., i, 332.

**$\beta$ -oximino-**, copper salts (WISLICENUS and GRÜTZNER), 1909, A., i, 478.

**oximinonitro-**, ethyl ester, and its derivatives (SCHMIDT and DIET-ERLE), 1910, A., i, 815.

**thio- and thiol-** (ULPIANI and CIANCARELLI), 1904, A., i, 162.

***d*ithio-**. See Benzylcarbithionic acid.

***o*-thiocyano-** (MARSHALK), 1912, A., i, 576.

**Phenylacetic anhydride**, compound of, with iodine and potassium iodide (CLOVER), 1904, A., i, 322.

**Phenylacetiminoethyl ether hydrochloride**, *p*-chloro- (v. WALTHER and GROSSMANN), 1909, A., i, 55.

**$\alpha$ -Phenylacetoacetic acid**,  $\alpha$ -bromo-, ethyl ester, carbon monoxide scission from (DIMROTH and EBLE), 1907, A., i, 57.

**2:4-*d*initro-**, ethyl ester, and its reduction products (REISSERT and HELLER), 1905, A., i, 59.

**ethyl and methyl esters**, and related compounds (BORSCHÉ), 1909, A., i, 232, 385.

**2:6-*d*initro-**, ethyl ester, and its *O*-benzoyl derivative (BORSCHÉ and RANTSCHÉFF), 1911, A., i, 332.

**$\gamma$ -Phenylacetoacetic acid**,  $\alpha$ -cyano-, ethyl ester, and its salts, reactions, and anilide (SMITH and THORPE), 1907, T., 1899; P., 249.

**Phenylacetoacetyl-6-amino-2-methylindole**, 2':4'-diamino-, and its tri-benzoyl derivative (REISSERT and HELLER), 1905, A., i, 60.

**Phenylacetoacetyl-2:4-diaminophenylacetoacetic acid**, 2:4-diamino-, ethyl ester, and its metallic and additive salts and acetyl and benzoyl derivatives (REISSERT and HELLER), 1905, A., i, 60.

**Phenylacetodiethylamide** (v. BRAUN), 1904, A., i, 90.

**Phenyl- $\zeta$ -acetoethylthiocarbamide** (GABRIEL), 1909, A., i, 892.

**Phenylacetoneazine**, isonitroso- (PONZIO and GIOVETTI), 1908, A., i, 834.

**Phenylacetone**. See Benzyl methyl ketone.

**Phenylacetoneitrile** (*benzyl cyanide*), synthesis by means of (BODROUX and TABOURY), 1910, A., i, 257.

**condensations of** (ATKINSON and THORPE), 1906, T., 1906; P., 281.

**action of acetyl bromide on** (KUNCKELL and FLOS), 1906, A., i, 848.

**action of cyanogen bromide on** (v. BRAUN), 1903, A., i, 697.

**sodium derivative**, action of anisaldehyde and piperonaldehyde on (BODROUX), 1911, A., i, 783.

**action of benzaldehyde on** (BODROUX and TABOURY), 1910, A., i, 622.

**condensation of**, with benzonitrile (ATKINSON, INGHAM, and THORPE), 1907, T., 591.

**action of acid chlorides, anhydrides, and of ketones on** (BODROUX), 1911, A., i, 545.

**sodium derivative**, action of esters on (BODROUX), 1911, A., i, 129.

**action of esters of monobasic aliphatic acids on** (BODROUX), 1910, A., i, 623.

**action of**, on ethyl cinnamate (AVERY and McDOLLE), 1908, A., i, 343.

**Phenylacetoneitrile**, *o*-amino-, and its derivatives (PSCHORR and HOPPE), 1910, A., i, 737.

***o*-bromo-**, condensation of ethyl nitrate with, and *o*-bromo- $\alpha$ -isonitro-, and its methyl ether and sodium and potassium salts (WISLICENUS and FISCHER), 1910, A., i, 621.

***p*-bromo-**, and ethyl nitrate, condensation of (WISLICENUS and ELVERT), 1909, A., i, 29.

**$\omega$ -*p*-*d*ibromo- $\omega$ -nitro-** (WISLICENUS and ELVERT), 1909, A., i, 31.

***p*-bromo-oximino-**, and its methyl ether (WISLICENUS and ELVERT), 1909, A., i, 30.

***p*-chloro-**, and its condensation with aromatic esters (v. WALTHER and HIRSCHBERG), 1903, A., i, 494.

**tetrachloro-*p*-hydroxy-**, and its acetyl derivative (ZINCKE and BOTTCHER), 1906, A., i, 739.

***o*-hydroxy-** (AUWERS), 1907, A., i, 929.



- Phenylacetonitrile**, *p*-nitro-, *p*-methyloxyethylaminophenylimide of (SACHS and KRAFT), 1903, A., i, 335.
- $\omega$ -nitro- (STEINKOPF, MALINOWSKI, and SUPAN), 1911, A., i, 946.
- methyl ether of (HANTZSCH), 1907, A., i, 501.
- isonitroso-, and its salts and chloro- and nitro-derivatives, and their methyl ethers, benzoates, and additive compounds (ZIMMERMANN), 1903, A., i, 91.
- $\alpha$ -Phenylacetonyldimethylamine hydrochloride (EMDE and RUNNE), 1911, A., i, 715.
- $\alpha$ -Phenylacetonylmethylamine hydrochloride (EMDE and RUNNE), 1911, A., i, 715.
- $\alpha$ -Phenylacetonyltrimethylammonium (EMDE and RUNNE), 1911, A., i, 714.
- Phenylacetophenone**,  $\omega$ -2:4-dinitro- (BORSCHKE), 1909, A., i, 233.
- and 2:4-dinitro-oximino- (BORSCHKE and OPPENHEIMER), 1912, A., i, 653.
- Phenylacetophenylhydrazino-ether** (HENLE), 1905, A., i, 490.
- Phenylaceto-*o*-, -*m*-, and -*p*-toluidides**,  $\alpha$ -cyano- (HESSLER), 1908, A., i, 183.
- Phenylacetoxycetyl- $\alpha$ -cyanoacetic acid**, ethyl ester (*ethyl phenylacetyl-glycolyl- $\alpha$ -cyanoacetate*) and its silver salt (ANSCHÜTZ and BÖCKER), 1909, A., i, 730.
- 2-Phenyl-4-*o*-acetoxycinnamylideneoxaz-olone** (ERLENMEYER and STADLIN), 1905, A., i, 239.
- 2-Phenyl-4-*m*-acetoxycinnamylideneoxaz-olone** (ERLENMEYER and WITTENBERG), 1905, A., i, 240.
- Phenyl acetoxycetyl-*tert*-butyl ketone** and its *p*-nitrophenylhydrazone (BLAISE and HERMAN), 1911, A., i, 880.
- $\alpha$ -Phenyl-3-acetoxycinnamic acid, 2-nitro- (PSCHORR and QUADE), 1906, A., i, 851.
- $\alpha$ -Phenyl-4-acetoxycinnamic acid, 4-nitro- (HEWITT, LEWCOCK, and POPE), 1912, T., 607.
- $\alpha$ -Phenyl-4-acetoxy-3-methoxycinnamic anhydride, *o*-nitro-2-amino-. See 4-Acetoxy-3-methoxycarbostyryl, *o*-nitro-.
- Phenylaceturic acid**, ethyl ester, and nitrile (KLAGES and HAACK), 1903, A., i, 560.
- Phenylaceturic acid**, *p*-chloro- (FRIEDMANN and MAASE), 1910, A., ii, 795.
- Phenylacetyl chloride**, reaction of, with thioureas (DIXON and TAYLOR), 1907, T., 924; P., 120.
- Phenylacetyl chloride**,  $\alpha$ -*p*-dichloro- (STRAUS), 1912, A., i, 992.
- p*-nitro- (WEDEKIND, HÄUSSERMANN, WEISSWANGE, and MILLER), 1911, A., i, 220.
- 2:4-dinitro- (BORSCHKE and OPPENHEIMER), 1912, A., i, 653.
- $\omega$ -Phenylacetylaminoacetophenone, and its oxime and phenylhydrazone (ROBINSON), T., 2170; P., 295.
- $\omega$ -Phenylacetylaminoacetoveratrone (ROBINSON), 1909, T., 2172; P., 296.
- 1-Phenylacetylamino-2:5-dimethylpyrrole** and its 3:4-dicarboxylic acid (BÜLOW and v. KRAFFT), 1903, A., i, 196.
- Phenylacetylaminomethylcarbinol** (PICTET and GAMS), 1910, A., i, 774.
- $\beta$ -Phenylacetylamino- $\alpha$ -phenylethane,  $\alpha$ -hydroxy- (ROBINSON), 1909, T., 2171; P., 295.
- Phenyl-*p*-acetylaminotolylodionium** hydroxide and salts (WILLGERODT and GORTNER), 1908, A., i, 877.
- Phenyl-*p*-acetylamino-*o*-tolylsulphone** (ÜLLMANN and LEHNER), 1905, A., i, 290.
- Phenylacetylamylthiocarbamide** (GABRIEL), 1909, A., i, 493.
- Phenylacetylcarbamic acid**, ethyl ester (RUHEMANN and PRIESTLEY), 1909, T., 452.
- Phenylacetylcarbinol** and its acetate (CARAPELLE), 1904, A., i, 158.
- and its semicarbazone (WREN), 1909, T., 1592.
- Phenylacetylchlorophenylacetic acid**, ethyl ester (v. WALTHER and HIRSCHBERG), 1903, A., i, 495.
- Phenylacetyl-*p*-chlorophenylacetonitrile** and its oxime and phenylhydrazone (v. WALTHER and HIRSCHBERG), 1903, A., i, 495.
- Phenylacetyl- $\beta$ -3:5-dimethoxyphenylethylamide** (SALWAY), 1911, T., 1322; P., 192.
- Phenylacetylene**, formation of, and its copper salts (STRAUS), 1906, A., i, 77.
- new mode of formation of (MÜHLHAUSEN), 1907, A., i, 25.
- action of potassium hydroxide on mixtures of ketones with (FAWORSKY), 1905, A., i, 773; (SKOSAR- EWSKY; BORK), 1905, A., i, 774; (NEWEROWITSCH; BERTROND; ROMANOFF), 1905, A., i, 775.
- acyl derivatives, action of hydroxylamine on (MOUREU and BRACHIN), 1904, A., i, 95.

- Phenylacetylene**, *p*-nitro- (WIELAND), 1903, A., i, 767.
- Phenylacetylenecarbinol ether** (ODDO), 1904, A., i, 862.
- Phenylacetylene-ethylpropylcarbinol** (BRACHIN), 1907, A., i, 129.
- Phenylacetylenyldimethylcarbinol**, synthesis of, and its acetyl derivative (SKOSAREWSKY), 1905, A., i, 774.
- Phenylacetylenylmethyl-*tert*.-butylcarbinol**, synthesis of (NEWEROWITSCH), 1905, A., i, 775.
- Phenylacetylenylmethylethylcarbinol**, synthesis of (BORK), 1905, A., i, 774.
- Phenylacetylenylmethylisopropylcarbinol**, synthesis of (BORK), 1905, A., i, 774.
- 3-Phenylacetyl-5-formyldiaminobenzoic acid**, *m*-amino-, preparation of derivatives of (FARBENFABRIKEN VORM. F. BAYER & Co.), 1912, A., i, 768.
- Phenylacetylglycolyl- $\alpha$ -cyanoacetic acid**, ethyl ester. See Phenylacetoxycetyl- $\alpha$ -cyanoacetic acid, ethyl ester.
- Phenylacetyl- $\gamma$ -homocholine** and its salts (MENGE), 1912, A., i, 949.
- Phenylacetylhomopiperonylamine** (FARBENFABRIKEN VORM. F. BAYER & Co.), 1911, A., i, 1015.
- Phenylacetyl- $\beta$ -3-methoxy-4:5-methylenedioxyphenylethylamine** (SALWAY), 1910, T., 1213.
- Phenylacetyl- $\alpha$ - and - $\beta$ -methylcholines** and their salts (MENGE), 1912, A., i, 949.
- Phenylacetyl- $\beta$ -phenylethylamine** (DECKER and KROPP), 1909, A., i, 513; (PICOT and KAY), 1909, A., i, 514.
- Phenylacetylphenylhydrazide**,  $\alpha$ -cyano- (HESSLER), 1908, A., i, 183.
- 4-Phenylacetylpyridine-3-carboxylic acid** and its amide (FELS), 1904, A., i, 618.
- Phenylacetylquinol**, methyl ethers of (KAUFFMANN and GROMBACH), 1906, A., i, 286.
- Phenylacetylsemicarbazide** (RUPE and FIEDLER), 1912, A., i, 143.
- Phenylacetyldithiocarbamic acid**, esters (JOHNSON, BATEMAN, PALMER, and BRAUTLECHT), 1906, A., i, 954.
- Phenylacetyltropeine**, salts of (JOWETT and PYMAN), 1909, T., 1028.
- Phenylacetylurethane** (DIELS), 1903, A., i, 325.
- 5-Phenylacridine** and its halogen derivatives, action of bromine on, and the methylation and salts of the products (DUNSTAN and HILDITCH), 1907, T., 1659; P., 206.
- 5-Phenylacridine**, chromate of, and 2:8-diamino- and its additive salts, and bromo- and chloro-derivatives (DUNSTAN and OAKLEY), 1906, A., i, 383.
- meth- and eth-iodides (DECKER, GADOMSKA, SANDBERG, and STAVROLOPOULOS), 1905, A., i, 375.
- derivatives of (ULLMANN and BROIDO), 1906, A., i, 188; (ULLMANN and ERNST), 1906, A., i, 205; (KEHRMANN and STÉPANOFF), 1909, A., i, 54; (KAUFMAN, ALBERTINI, and HOLLSBOER), 1909, A., i, 606.
- methyl derivatives of (SCHMID and DECKER), 1906, A., i, 305.
- 5-Phenylacridine**, 3-amino-, and its acetyl derivative, 3:7-diamino-, 3-nitro-, and 3-nitro-7-amino- (ULLMANN and ERNST), 1906, A., i, 205.
- 1:3-diamino-, and its diacetyl derivative, 1:3-dinitro-, 1:3-dinitro-7-amino-, and 1:3-dinitro-9-hydroxy- (ULLMANN and BROIDO), 1906, A., i, 189.
- 2-*p*-diamino- (*chrysaniline*), acetylation and methylation of (DUNSTAN and HEWITT), 1906, T., 482; P., 73.
- p*-amino-2-hydroxy-. See Chrysophenol.
- p*-bromo-, and its salts (DUNSTAN and STUBBS), 1906, A., i, 698.
- di*bromo-, methobromide of (KAUFMANN, WIDMER, and ALBERTINI), 1911, A., i, 749.
- o*- and *p*-hydroxy-, and their salts (LANDAUER), 1904, A., i, 927.
- 10-Phenylacridine perchlorate** (VORLÄNDER), 1906, A., i, 906.
- 5-Phenylacridine-*o*-carboxylic acid**, methylation of (DECKER and HOCK), 1904, A., i, 450.
- quaternary salts, action of amines on (DECKER and SCHENK), 1906, A., i, 304.
- ethyl ester, and its additive derivatives (DECKER and SCHENK), 1906, A., i, 304.
- 10-Phenylacridinium compounds** (ULLMANN and MAAG), 1907, A., i, 638.
- 10-Phenylacridone** (GOLDBERG and NIMEROVSKY), 1907, A., i, 621.
- Phenylacrylamide**,  $\alpha$ -cyano-*p*-hydroxy- (SCLAVI), 1911, A., i, 398.
- $\alpha$ -Phenylacrylic acid. See Atropic acid.
- Phenylacrylamines**, hydrazones of (BUSCH and HEFELE), 1911, A., i, 582.
- 2-Phenyladenine** (TRAUBE and HERRMANN), 1904, A., i, 633.

- $\beta$ -Phenylæsculetin** and its derivatives (BARGELENI and MARTEGANI), 1912, A., i, 292.
- dl*-Phenylalaninamide** (KOENIGS and MYLO), 1909, A., i, 88.
- Phenylalanine**, synthesis of (WHEELER and HOFFMAN), 1911, A., i, 499.  
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production of homogentisic acid from (FALTA and LANGSTEIN), 1903, A., ii, 496.  
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acyl derivatives (LEUCHS and SUZUKI), 1904, A., i, 867; (FISCHER), 1904, A., i, 890.  
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- Phenylalanine**, 3:5-dibromo-, and its ethyl ester and salts (WHEELER and CLAPP), 1908, A., i, 897.  
*m*-chloro- (FLATOW), 1910, A., ii, 321.  
*p*-chloro-, and its hydrochloride and benzoyl derivative (FRIEDMANN and MAASE), 1910, A., ii, 794.  
*p*-iodo-, and its derivatives (WHEELER and CLAPP), 1908, A., i, 981.  
derivatives of (ABDERHALDEN and BROSSA), 1909, A., i, 800.
- l*-Phenylalanine**, derivatives of (FISCHER and SCHOELLER), 1907, A., i, 1037.
- dl*-Phenylalanine**, 3:4-dihydroxy- (FUNK), 1911, T., 557; P., 56.  
2:4-dinitro- (ABDERHALDEN and BLUMBERG), 1910, A., i, 371.
- $\beta$ -Phenylalanine**, compounds of, with hippurylazoimide (CURTIUS and MÜLLER), 1904, A., i, 887.
- dl*- and *l*-Phenylalanines**, piconolates of (LEVENE and VAN SLYKE), 1912, A., i, 682.
- Phenylalaninehydantoin**. See 4-Benzylhydantoin.
- l*-Phenylalanylglycine** (FISCHER and SCHOELLER), 1907, A., i, 1038.
- Phenyl *p*-aldehydostyryl ketone** (*p*-aldehydobenzyldiacetophenone) (V. LENDENFELD), 1907, A., i, 221.
- Phenylalkylamines** and phenylalkylammonium bases, biological behaviour of (HILDEBRANDT), 1907, A., ii, 496.
- Phenylalkylamines**, *o*-dihydroxy-, optically inactive, preparation of (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1910, A., i, 372, 664.
- Phenylalkylcamphorylmethanes** (HALLER and BAUER), 1906, A., i, 441.
- Phenyl alkyl ketones**, preparation of acids and amides from (WILLGERODT and MERCK), 1909, A., i, 716.
- Phenylalkylnitroamines**, *trinitro*- (FRANCHIMONT), 1910, A., i, 617.
- Phenylalkylnitrosoamines**, *p*-diazonium compounds of (BADISCHE ANILIN- & SODA-FABRIK), 1904, A., i, 1063.
- Phenylalkyloxyacetic acids**, possible intramolecular change in the inactive (TURNER), 1909, P., 201.
- 1-Phenyl-4-alkyl-3:5-pyrazolidones** (MICHAELIS and SCHENK), 1909, A., i, 58.
- $\alpha$ -Phenyl- $\alpha$ -alkylsulphone- $\delta$ -dimethylpentan- $\gamma$ -ones** (POSNER), 1904, A., i, 323.
- Phenylallene**, attempts to synthesise (KLAGES and KLENK), 1906, A., i, 638.
- Phenylallophanic acid**, methyl ester (DIELS and GOLLMANN), 1911, A., i, 956.
- $\alpha$ -Phenylallyl alcohol**, bromide, chloride, chlorodibromide, and ethyl ether (KLAGES and KLENK), 1906, A., i, 638.
- Phenylallyl ozonide** (HARRIES and V. RIEDENSTEIN), 1912, A., i, 674.
- Phenylallylacetetic acid**, resolution of, and *d*- and its *l*-menthylamine, and metallic salts (PICKARD and YATES), 1909, T., 1016; P., 152.
- Phenylallylcarbinol**, synthesis of, and its oxidation (KLIMENKO), 1911, A., i, 444.
- Phenyl- $\psi$ -allylchlorohydrin**, dihydroxy- (BÖTTCHER), 1909, A., i, 153.
- Phenylallylthiocarbamide**, reactions of, with acyl chlorides (DIXON and TAYLOR), 1908, T., 24.
- N*-Phenyl-*S*-allyldithiourethane** (V. BRAUN), 1903, A., i, 15.
- Phenylamic acids**, action of phenylcarbinide on (ARATI and GALLO), 1906, A., i, 944.
- Phenylamine**. See Aniline.
- Phenylamino-**. See also Anilino-.
- Phenylaminoacetic acid**, optical resolution of (EHRICH and WENDEL), 1908, A., i, 269; (FISCHER and WEICHOLD), 1908, A., i, 419; (BETTI and MAYER), 1908, A., i, 639.  
copper salts of (STADNIKOFF), 1907, A., i, 318.



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- Phenylaminoacetic acid**, *o*-bromo- (WISLIGENUS and FISCHER), 1910, A., i, 622.  
*p*-bromo- (WISLIGENUS and ELVERT), 1909, A., i, 31.  
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- d*-Phenylaminoacetic acid**, acetyl derivative, synthesis of, in the perfused liver (NEUBAUER and WARRBURG), 1911, A., ii, 52.
- l*-Phenylaminoacetic acid** and its hydrochloride, phenylcarbimide, phenylhydantoin and *l*-diphenylhydantoin (EHRlich and WENDEL), 1908, A., i, 269.  
*d*-camphorsulphonate, crystallography of (PANICHI), 1912, A., ii, 551.
- Phenylaminoacetic acids**, optically active, action of nitrous acid on, and conversion of, into phenyl-halogenacetic acids (McKENZIE and CLOUGH), 1909, T., 791.
- 5-Phenylaminoacetyl-amino-2:6-diketo-3-methyltetrahydropyrimidine**, 4-amino- (FARBENFABRIKEN VORM. F. BAYER & Co.), 1909, A., i, 746.
- Phenylaminoacetyl-tropeine** and its dihydrobromide and dipicrate (JOWETT and PYMAN), 1909, T., 1025.
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- Phenyl-*p*-aminobenzeneazo- $\beta$ -naphthol** and its 2- and 4-mono-, 2:4-*di*-, and 2:4:6-*tri*-nitro-derivatives (MORGAN and MICKLETHWAIT), 1908, T., 609; P., 48.
- Phenyl-*p*-aminobenzenediazonium** chloride, 2:4-*d*initro- (MORGAN and MICKLETHWAIT), 1908, T., 610.
- 1-Phenyl-4-*p*-aminobenzylhydantoin** and its salts (JOHNSON and BRAUTLECHT), 1912, A., i, 805.
- Phenylaminocamphor** and its nitroso-derivative and *p*-hydroxy- and *p*-chloro- (FORSTER and THORNLEY), 1909, T., 950.
- Phenylaminochlorophenylphenazonium** salts (BALLS, HEWITT, and NEWMAN), 1912, T., 1849.
- Phenylaminocrotonatebenzylideneacetoacetic acid**, ethyl ester (KNOEVENAGEL, ERLER, and REINECKE), 1903, A., i, 652.
- Phenylaminodimethylcarbinol** and its dibenzoyl derivative (RIEDEL), 1908, A., i, 769.
- Phenyl-4:4'-diaminodiphenylamine**, *p*-hydroxy- (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1904, A., i, 1062.
- Phenyltetraaminoditolylmethane**, *p*-amino-, and its acetyl derivative and *p*-nitro- (ULLMANN and GRETHER), 1903, A., i, 447.
- Phenyl-*di-p*-aminodi-*p*-xylylmethane** and *m*- and *p*-nitro-, and their diacetyl and dibenzoyl derivatives (SCHULTZ and PETENY), 1907, A., i, 1075.
- Phenyl- $\alpha$ -aminoethylcarbinol** and its salts (SCHMIDT and CALLIESS), 1911, A., i, 742; (CALLIESS), 1912, A., i, 365.
- Phenyl- $\alpha$ -aminoethyl ketone** and its salts (SCHMIDT and CALLIESS), 1911, A., i, 742.
- Phenylaminoglyoxime peroxide** (WIELAND), 1903, A., i, 770.
- Phenylaminoguanidine hydrobromide** (PELLIZZARI and LARIA-BOTTE), 1911, A., i, 337.
- Phenyl-5-amino-2-hydroxybenzylethylamine** (EINHORN, BISCHKOPFF, and SZELINSKI), 1906, A., i, 247.
- $\alpha$ -Phenyl-2-amino-3-hydroxy-4-methoxycinnamic acid** (PSCHORR and VOGTHER), 1903, A., i, 184.
- Phenylaminoimino-oxalic methyl ethers** (LANDER), 1904, T., 987; P., 132.
- 4-Phenyl-2-aminomethylthiazole** hydrobromide (JOHNSON and BURNHAM), 1912, A., i, 305.
- Phenyl-2:4-diamino- $\alpha$ -naphthylamine** (ULLMANN and BRUCK), 1909, A., i, 22.
- Phenylamino- $\alpha$ -naphthylaminophenyl- and -chlorophenyl-phenazonium** nitrates (BALLS, HEWITT, and NEWMAN), 1912, T., 1850.
- Phenyl-8-aminonaphthylcarbamide** (SACHS), 1909, A., i, 432.
- Phenyl-8-aminonaphthylthiocarbamide** (SACHS), 1909, A., i, 431.
- 1-Phenyl-5-aminophenylaminotriazole**, 3-thio-, and its diacetyl and dibenzylidene derivatives (FROMM and BAUMHAUER), 1908, A., i, 702.
- 1-Phenyl-2-*p*-aminophenylbenzimidazole**, 5-*p*-diamino-. See 1:2-Dianilino-benzimidazole, 5-amino-.

- 5-Phenyl-1-*o*-, -*m*-, and -*p*-amino- and -nitro-phenyl-2-methylpyrrole-3-carboxylic acids, ethyl esters (BORSCHÉ and TITSINGH), 1908, A., i, 104.
- 5-Phenyl-2-*o*- and -*p*-aminophenylloxazoles and their derivatives (LISTER and ROBINSON), 1912, T., 1310.
- Phenyl  $\alpha$ -aminopropyl ketone, hydrochloride, picrate, and platinichloride of (HILDESHEIMER), 1910, A., i, 891.
- Phenyl- $\gamma$ -aminopropylsulphone hydrochloride (GABRIEL and COLMAN), 1912, A., i, 116.
- Phenyl-*o*-aminotolylidinium hydroxide and salts, and their *N*-acetyl derivative (WILLGERODT and HEUSNER), 1907, A., i, 1026.
- Phenylammonium osmichloride (GUTBIER and WALBINGER), 1911, A., i, 191.
- platinibromide (GUTBIER, BAURIEDL, and OBERMAIER), 1911, A., i, 33.
- $\epsilon$ -Phenylamyl alcohol and its acetate (v. BRAUN, DEUTSCH, and KRUBER), 1911, A., i, 968.
- $\epsilon$ -Phenylamyl chloride, *p*-nitro- (v. BRAUN and DEUTSCH), 1912, A., i, 846.
- mercaptan (v. BRAUN), 1912, A., i, 552.
- Phenylisoamylacetic acid and its derivatives (FARBENFABRIKEN VORM. F. BAYER & Co.), 1912, A., i, 974.
- $\epsilon$ -Phenylamylamine, and its derivatives (v. BRAUN), 1910, A., i, 844; (MERCK), 1912, A., i, 110.
- 9-Phenyl-9-isoamyl-10-anthrone and mono- and di-hydroxy-, and their acetyl derivatives (JÜNGERMANN), 1905, A., i, 795.
- 8-Phenyl-*sec*-.amylcarbamide (MAILHE), 1905, A., i, 635.
- 9-Phenyl-9-isoamyl-dihydroanthracene and 10-bromo- (JÜNGERMANN), 1905, A., i, 796.
- $\epsilon$ -Phenylamyl-dimethylamine and its picrate (v. BRAUN), 1911, A., i, 613.
- $\epsilon$ -Phenylamyl-dimethylamine, *p*-amino-, *p*-hydroxy-, and its salts, and *p*-nitro- (v. BRAUN and DEUTSCH), 1912, A., i, 846.
- Phenylamyl-disulphone-ethane and -methane (POSNER and HAZARD), 1903, A., i, 243.
- Phenylamylene (v. BRAUN), 1911, A., i, 613.
- $\beta$ -Phenyl- $\Delta\alpha$ -amylenes ( $\alpha$ -isopropylvinylbenzene) and its dibromide (KLAGES), 1904, A., i, 28; (TIFFENEAU), 1907, A., i, 406.
- $\beta$ -Phenyl- $\Delta\beta$ -amylenes and its dibromide (KLAGES and HAHN), 1903, A., i, 19.
- $\gamma$ -Phenyl- $\Delta\beta$ -amylenes ( $\alpha$ -ethylpropenylbenzene) (TIFFENEAU), 1907, A., i, 406.
- and its bromo- and nitroso-chloride derivatives (KLAGES), 1904, A., i, 28.
- Phenylamylenes, iodohydrins of, and their reactions with silver nitrate (TIFFENEAU), 1906, A., i, 966.
- d*-Phenylamylhydrazine and its hydrochloride and tartaric derivatives (NEUBERG and FEDERER), 1905, A., i, 299, 300.
- Phenyl amyl ketone and its semicarbazone (SCHROETER), 1907, A., i, 531.
- Phenyl isoamyl ketone and its oxime and semicarbazone, and physical constants of (PATERNÒ and TRAETTA-MOSCA), 1909, A., i, 487.
- s*-Phenylisoamylloxymethylthiocarbamide (JOHNSON and GUEST), 1909, A., i, 371.
- 3-Phenyl-5-amylpyrazole (MOUREU and BRACHIN), 1903, A., i, 581.
- 1-Phenyl-3-amylpyrazoline, 5-imino- (MOUREU and LAZENNEC), 1907, A., i, 159.
- Phenyl  $\beta$ -isoamylthiol- $\gamma$ -benzylidene-propyl ketone (RUHEMANN), 1905, T., 24.
- $\epsilon$ -Phenylamyl-dithiourethane (v. BRAUN), 1912, A., i, 552.
- 1-Phenyl-2-isoamylurazole (BRUNEL and ACREE), 1910, A., i, 521.
- Phenylangelic acid. See  $\alpha$ -Benzylidenebutyric acid.
- Phenylangelicalactone, constitution of (THIELE and WEDEMANN), 1906, A., i, 725.
- p*-Phenylanilinomalonic acid, ethyl ester (FORTINSKY), 1912, A., i, 770.
- N*-Phenyl-*p*-anisaldoxime (PLANCHER and PICCININI), 1905, A., i, 705.
- hydriodide and periodide (BECKMANN, EBERT, NETSCHER, and SCHULZ), 1909, A., i, 654.
- hydrogen tri- and penta-iodide (BECKMANN, EBERT, NETSCHER, and SCHULZ), 1909, A., i, 653.
- Phenyl-*p*-anisidine, tribromo- (WIELAND and WECKER), 1910, A., i, 243.
- Phenyl-*p*-anisylacetic acid (POINTET), 1909, A., i, 235.
- $\alpha$ -hydroxy-, lactone of (STOERMER and DECKER), 1911, A., i, 665.
- Phenylanisylacetylene (MOUREU and BRACHIN), 1903, A., i, 581.
- $\delta$ -Phenyl- $\alpha$ -anisyl- $\Delta\alpha$ -butene- $\gamma\delta$ -dianil (BORSCHÉ and TITSINGH), 1910, A., i, 65.

- $\alpha$ -Phenyl- $\delta$ -anisyl- $\Delta^{\alpha}$ -butene- $\gamma\delta$ -dianil** (BORSCHÉ and TITSINGH), 1910, A., i, 66.
- 5-Phenyl-7-anisyl-2:3-dihydro-4-pyrindene**, salts of (STRIEGLER), 1912, A., i, 782.
- $\alpha$ -Phenyl- $\alpha$ -*p*-anisylethyl alcohol, *o*-amino-** (STOERMER and GAUS), 1912, A., i, 1026.
- Phenyl-*p*-anisylethylene**, *o*-amino-, and its platinichloride (STOERMER and GAUS), 1912, A., i, 1026.
- di*bromo-** (BUSIGNIES), 1910, A., i, 668.
- Phenyl-*o*- and -*p*-anisylethylenes**, and their  $\omega$ -bromo- and  $\omega$ -chloro-derivatives (STOERMER and SIMON), 1905, A., i, 53.
- $\alpha$ -Phenyl-*b*-anisylethylthiocarbamide** (BUSCH and LEEFHLM), 1908, A., i, 153.
- Phenyl-*p*-anisylglycidic acid** and its ethyl ester (POINTET), 1909, A., i, 234.
- $\beta$ -Phenyl- $\beta$ -*o*-anisylhydracrylic acid** and its ethyl ester and barium salt (STOERMER and FRIDERICI), 1908, A., i, 180.
- 1-Phenyl-4-anisylidenehydantoin** (WHEELER and HOFFMAN), 1911, A., i, 500.
- 2-thio-**, and its sodium salt (WHEELER and BRAUTLECHT), 1911, A., i, 500.
- Phenylanisylidenenitromethane** (KNOEVENAGEL and WALTER), 1905, A., i, 66.
- 3-Phenyl-4-*o*-anisylideneisooxazolone** (MEYER), 1912, A., i, 1019.
- Phenylanisylidene-*p*-phenylenediamine** and its hydrochlorides (MOORE and WOODBRIDGE), 1908, A., i, 686.
- Phenylanisylidoethylene** (STOERMER and FRIDERICI), 1908, A., i, 179.
- $\beta$ -Phenyl- $\beta$ -anisyl- $\alpha$ -methylhydracrylic acid** and its methyl ester and amide (STOERMER, FRIDERICI, BRÄUTIGAM, and NECKEL), 1911, A., i, 297.
- 5-Phenyl-2-anisylloxazole** and its picrate (LISTER and ROBINSON), 1912, T., 1304.
- 2-Phenyl-5-anisylloxazole** (LISTER and ROBINSON), 1912, T., 1305.
- 5-Phenyl-3-anisylisooxazole**, 4-amino- and 4-nitro- (WIELAND and BLOCH), 1905, A., i, 707.
- $\alpha$ -Phenyl- $\alpha$ -anisylpropene** and  $\beta$ -bromo- (HELL and STOCKMAYER), 1904, A., i, 241.
- $\beta$ -Phenyl- $\beta$ -anisylpropionic acid** (STOERMER and FRIDERICI), 1908, A., i, 179.
- 1-Phenyl-5-anisylpyrazole-3-carboxylic acid** and its copper salt (BAUER and DIETERLE), 1911, A., i, 921.
- 2-Phenyl-6-anisylpyridine** (SCHOLTZ and MEYER), 1910, A., i, 562.
- 3-Phenyl-2-*p*-anisylquinoline-4-carboxylic acid** (FARBENFABRIKEN VORM. F. BAYER & CO.), 1912, A., i, 1018.
- Phenylanisylthiocarbamide** (v. BRAUN and DEUTSCH), 1912, A., i, 694.
- $\delta$ -Phenyl- $\beta$ -*o*-anisylthiosemicarbazide**, and its *m*-nitrobenzylidene derivative (BUSCH and REINHARDT), 1910, A., i, 77.
- Phenyl-*p*-anisyl-3:4-*gem*-triazoloisooxazole** (WIELAND, GMELIN, and ROSEEU), 1910, A., i, 785.
- Phenyl anisyl triketone** and its oxime (WIELAND and BLOCH), 1904, A., i, 597.
- Phenylanthramine** (PADOVA), 1909, A., i, 655.
- Phenylanthranil(2-phenyl- $\psi$ -benzoxazole)** (BAMBERGER and LINDBERG), 1909, A., i, 511.
- Phenylanthranilic acid**. See Diphenylamine-2-carboxylic acid.
- Phenylanthranol**, iodo-hydrido-derivative (LIEBERMANN and MAMLOCK), 1905, A., i, 531.
- Phenylanthraquinomethane**,  $\omega$ -chloro- (PADOVA), 1909, A., i, 655.
- 2-Phenylanthraquinone** (SCHOLL and NEOVIUS), 1911, A., i, 452.
- Phenylanthraquinone chloride**, *dichloro*- (SCHARWIN, NAUMOFF, and GANDURIN), 1904, A., i, 1032.
- 1:2-Phenylanthraquinoneiminazole** and 4-amino- (FARBENFABRIKEN VORM. F. BAYER & CO.), 1912, A., i, 140.
- Phenyl-1- and -2-anthraquinonylcarbamide** (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1911, A., i, 469, 995.
- Phenyl-2-anthraquinonylthiocarbamide** (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1911, A., i, 469.
- 2-Phenyl-9-anthrone** (SCHOLL and NEOVIUS), 1911, A., i, 452.
- Phenylanthrone salts** (LIEBERMANN, GLAWE, and LINDENBAUM), 1904, A., i, 901.
- 2-Phenylanthroxan**, 4-chloro-*p*-hydroxy-, and its acetyl derivative (ZINCKE and SIEBERT), 1906, A., i, 515.
- Phenylisooantipyrylthiocarbamide** (MICHAELIS and WREDE), 1907, A., i, 251.
- Phenylarsenic oxide**, *p*-amino-, and its acetyl derivative, halogen salts of (BERTHEIM), 1911, A., i, 593.



**Phenylarsenic oxide**, 3-amino-4-hydroxy-, and its hydrochloride (EHRlich and BERTHEIM), 1912, A., i, 523.

*squisulphide*, *p*-amino-, acetyl derivative (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1909, A., i, 280.

**Phenylarsenious oxide and arsenobenzene**, preparation of derivatives of, and 4-amino- (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1909, A., i, 347.

**Phenylarsenious oxide**, aminohydroxy- (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1911, A., i, 1055.

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*p*-iodo- (MAMELI and PATTÀ), 1910, A., i, 531.

**Phenylarsenious sulphide**, *p*-amino- (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1909, A., i, 280.

**Phenylarsine**, *p*-amino-, tetraiodide hydriodide (PATTÀ and CACCIA), 1911, A., i, 1054.

**Phenylarsinic iodide**, *m*-nitro-*p*-amino- (MAMELI), 1909, A., i, 980.

oxide, *p*-amino-, condensation product of, with  $\beta$ -naphthaquinonesulphonic acid (EHRlich, BERTHEIM, and SCHMITZ), 1910, A., i, 452.

**Phenylarsinic acid** and its derivatives, reduction products of (EHRlich, BERTHEIM, and SCHMITZ), 1910, A., i, 451.

and *p*-chloro- and *p*-hydroxy- (BERTHEIM), 1908, A., i, 591.

preparation of quinine and cinchonine salts of (VEREINIGTE CHEMISCHE WERKE AKTIEN-GESELLSCHAFT), 1909, A., i, 253.

**Phenylarsinic acid**, amino-, structure of (BERTHEIM and BENDA), 1912, A., i, 62.

an isomeric (BERTHEIM), 1908, A., i, 590.

*o*-amino-, and its barium and silver salts (BENDA), 1912, A., i, 63.

*m*-amino- (*m*-arsanilic acid), preparation of (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1909, A., i, 448.

*p*-amino- (*arsanilic acid*), and its acetate and their sodium salts (EHRlich and BERTHEIM), 1907, A., i, 812.

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carbamide and thiocarbamide derivatives of (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1910, A., i, 148.

homologues and derivatives of (BENDA and KAHN), 1908, A., i, 591; (KAHN and BENDA), 1909, A., i, 75.

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sulphur derivatives of (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1909, A., i, 280.

mercury hydrogen salt (AKTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION), 1912, A., i, 228.

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and its 5-acetyl derivative and their azo- and diazo-compounds (BENDA), 1912, A., i, 62.

3:4-diamino- (BERTHEIM), 1911, A., i, 1055.

3-amino-4-hydroxy-, and its sodium salt (EHRlich and BERTHEIM), 1912, A., i, 523.

4-amino-3-hydroxy-, and its salts (BENDA), 1912, A., i, 148.

and its sodium salt (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1912, A., i, 596.

*mono*- and *di*-bromo-*p*-amino-, *di*-chloro-*p*-amino-, and *mono*- and *di*-iodo-*p*-amino- (BERTHEIM), 1910, A., i, 346.

4-chloro-*o*-amino- (BENDA), 1910, A., i, 148.

4-chloro-3-nitro- (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1912, A., i, 595.

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and its derivatives, pharmacological action of (MAMELI and PATTÀ), 1911, A., ii, 911, 912.

biochemical investigations of (BLUMENTHAL and HERSCHMANN), 1908, A., ii, 878.

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- Phenylarsinic acid**, nitro-, structure of (BERTHEIM and BENDA), 1912, A., i, 62. •
- 5-nitro-2-amino-**, preparation of (FARBWERKE FORM. MEISTER, LUCIUS, & BRÜNING), 1912, A., i, 595.
- and **5-nitro-2-hydroxy-**, and **3:5-dinitro-2-hydroxy-**, and their derivatives (BENDA), 1912, A., i, 61.
- nitro-4-amino-** (FARBWERKE FORM. MEISTER, LUCIUS, & BRÜNING), 1911, A., i, 594, 760.
- 3-nitro-4-amino-** (MAMELI), 1909, A., i, 980.
- 3:5-dinitro-4-amino-** (BENDA), 1912, A., i, 328.
- 3-nitro-4-hydroxy-**, **3:5-dinitro-4-hydroxy-**, and their derivatives (BENDA and BERTHEIM), 1912, A., i, 63; (BENDA), 1912, A., i, 64.
- p-nitroso-** (KARRER), 1912, A., i, 740.
- Phenylarsinic acid-3-trimethylammonium hydroxide**, 4-hydroxy-, and its iodide (BERTHEIM), 1912, A., i, 819.
- Phenylarsinoacetic acid**, *p*-amino- (EHRlich, BERTHEIM, and SCHMITZ), 1910, A., i, 452.
- Phenyl aryl ketones**, fission of, by soda-mide (RAMART-LUCAS), 1909, A., i, 488.
- Phenylasparagine**, 2:4-dinitro- (ABDERHALDEN and BLUMBERG), 1910, A., i, 371.
- γ-Phenylaticonic acid**, configuration of (STOBEE and HORN), 1909, A., i, 31.
- derivatives of (FITIG and BRESLAUER), 1904, A., i, 419.
- Phenylation** in presence of copper as a catalyst (GOLDBERG), 1906, A., i, 426.
- Phenylauramine**, 4-nitro-, 2:4-dinitro-, and 2:4:6-trinitro-, and their hydrochlorides (SEMPER), 1911, A., i, 580.
- Phenylauramines**, amino-derivatives of (GRANDMOUGIN and LANG), 1909, A., i, 974.
- Phenylaziminobenzene**. See 1-Phenyl-1:2:3-benzotriazole.
- Phenyl-ψ-aziminobenzene**. See 2-Phenyl-2:1:3-benzotriazole.
- Phenyl-2-aziminonaphthalene 5:7-disulphonic acid**, *p*-nitro- and *p*-amino- (GESELLSCHAFT FÜR CHEMISCHE INDUSTRIE IN BASEL), 1910, A., i, 207.
- Phenyl-2-azimino-5-naphthol-7-sulphonic acid**, *p*-amino-, preparation of (GESELLSCHAFT FÜR CHEMISCHE INDUSTRIE IN BASEL), 1910, A., i, 206.
- 3:4-Phenylazimino-5-phenylisooxazole**. See Diphenyl-3:4-*gem*-triazoloisooxazole.
- Phenylaznitrosobenzene**, amino-, and its acetyl derivative (WERNER and PETERS), 1906, A., i, 221.
- Phenylaznitrosobenzenecarboxylic acid** and its ethyl ester, hydrazide, and azoimide (WERNER and PETERS), 1906, A., i, 220.
- Phenylaznitrosobenzeneurethane** (WERNER and PETERS), 1906, A., i, 221.
- Phenylazo-**. See also Benzeneazo-.
- Phenylazoacetaldoxime** (BAMBERGER and PEMSEL), 1903, A., i, 283, 284.
- Phenylazoacetoacetamide** (FEIST), 1906, A., i, 332.
- Phenylazoacetoacetic acid**, and *p*-bromo- and *p*-chloro-, menthyl esters (LAPWORTH), 1903, T., 1120; P., 149.
- ethyl ester, action of *p*-nitrobenzaldehyde on (PRAGER), 1903, A., i, 540.
- benzoylhydrazine of, and the action of alkali on (BÜLOW and SCHAUB), 1908, A., i, 705.
- Phenylazocyanoacetic acid**, ethyl ester, isomerism of the so-called (HANTZSCH and THOMPSON), 1905, A., i, 615.
- Phenylazocyanoacetic acid**, *p*-bromo-, menthyl ester, rotation of (BOWACK and LAPWORTH), 1903, P., 23; 1904, T., 45.
- Phenylazocyanoacetic acids**,  $\alpha$ - and  $\beta$ -, ethyl esters (WEISSBACH), 1903, A., i, 541.
- Phenylazo-2:4-diethoxybenzoylacetone** (BÜLOW and SAUTERMEISTER), 1904, A., i, 262.
- Phenylazoethane**, action of zinc ethyl on (TICHWINSKY), 1905, A., i, 93.
- reactions of (BAMBERGER and PEMSEL), 1903, A., i, 282.
- Phenylazoformaldoxime** and *o*-chloro- (BUSCH and WOLBRING), 1905, A., i, 494.
- Phenylazoformaldoxime**, *p*-nitro- (BUSCH and MEUSSDÖRFFER), 1907, A., i, 349.
- Phenylazoformamide**, *p*-amino-, and its hydrochloride and its *N*-benzoyl and 3:5(?)-dibromo-derivatives (BORSCHÉ and RECLAIRE), 1907, A., i, 988.
- p*-hydroxy-, and its 3:5-dibromo-, ethyl, and benzoyl derivatives (BORSCHÉ and ZELLER), 1904, A., i, 1056.
- Phenylazoformanilide**, *p*-amino-, and its additive salts, and benzoyl, phenyl-carbamido-, and dibromo-derivatives (BORSCHÉ and RECLAIRE), 1907, A., i, 989.

- $\gamma$ -Phenylazoglutaconic acid**, ethyl ester, phenylhydrazone of (HENRICH and THOMAS), 1908, A., i, 114.
- 1-Phenylazo-3:5-di-hydroxy-6-mono- and 6:6-di-methyl-1:6-dihydro-1:2:4-triazines**, *m*-nitro- (BAILEY and KNOX), 1907, A., i, 801.
- Phenylazoimide**, new method of preparing (DARAPSKY), 1907, A., i, 729.
- action of, with aniline and with *p*-toluidine (WOLFF), 1912, A., i, 1028.
- condensation of, with ketones (DIMROTH, FRISONI, and MARSHALL), 1907, A., i, 97.
- condensation product of, with 1-phenyl-3-methyl-5-pyrazolone, constitution, and derivatives of (HEIDUSCHKA and ROTHACKER), 1909, A., i, 851.
- addition of, to quinones (WOLFF and GRAU), 1912, A., i, 1034.
- synthesis of tetrazoles from (DIMROTH and MERZBACHER), 1907, A., i, 659.
- Phenylazoimide**, *o*- and *m*-bromo- (DIMROTH and PFISTER), 1910, A., i, 904.
- s*-tribromo- (FORSTER and FIERZ), 1907, T., 1952.
- 4:6-di-bromo-2-hydroxy-** (ORTON, EVANS, and MORGAN), 1907, P., 167.
- o*- and *m*-hydroxy-, and their metallic and acyl derivatives (FORSTER and FIERZ), 1907, T., 1850; P., 205.
- p*-hydroxy-, and its benzoyl, *m*-nitro-benzoyl, and potassium derivatives and methyl ether, and 3-nitro-4-hydroxy-, and its benzoyl and potassium derivatives (FORSTER and FIERZ), 1907, T., 859; P., 112.
- p*-nitro- (BRESLER, FRIEDEMANN, and MAI), 1906, A., i, 322.
- Phenylazoimides**, condensation of, with pyrazolones (v. WALTHER and ROTHACKER), 1906, A., i, 911.
- Phenylazo-*p*-nitrobenzylideneacetone**. See Styryl phenylazomethyl ketone, *p*-nitro-.
- p*-Phenylazo-oxanilide** (SUIDA), 1911, A., i, 365.
- 1-Phenyl-3-azophenyl-thiobiazolone, -di-thiobiazolone, and -2-thioazethane** (ORMEROD), 1906, P., 206.
- Phenylazothiolic acid**, *p*-nitro-, and its sodium salt (FRIEDLÄNDER and CHWALA), 1907, A., i, 526.
- $\beta$ -Phenylazoisovaleric acid** and its reduction (PRENTICE), 1904, T., 1667; P., 220.
- Phenylazoxime**, amino-, and its silver salt (WIELAND and BAUER), 1907, A., i, 492.
- 5-Phenylbarbituric acid** (FARBENFABRIKEN VORM. F. BAYER & Co.), 1912, A., i, 1025.
- Phenylbenzaldoxime** and *m'*-nitro- (PLANCHER and PICCININI), 1905, A., i, 705.
- Phenyl-*o*-benzdi-iminazole**, 2:5-di-*p*-amino-, and its diacetyl derivative (KYM and KOWARSKI), 1911, A., i, 1044.
- Phenylbenzdioxazole**, 1:5-di-*p*-amino-, and 1:5-di-*p*-nitro- (KYM and KOWARSKI), 1911, A., i, 1045.
- $\alpha$ -Phenylbenzeneazo-coumarin** and its sulphonic acid, *p*-hydroxycinnamic acid, *m*- and *p*-hydroxy- $\beta$ -phenylpropionic acids, and -melilotic acid and its sulphonic acid (BORSCHKE and STREITBERGER), 1904, A., i, 1064.
- 5-Phenyl-4-benzeneazoisooxazole-3-carboxylic acid** and its ethyl ester (BÜLOW), 1904, A., i, 623.
- 5-Phenyl-4-benzeneazopyrazole-3-carboxylic acid** and its ethyl ester (BÜLOW), 1904, A., i, 624.
- 1-Phenyl-5-benzeneazo-6-pyridazone-3-carboxylic acid**, ethyl ester (HENRICH and THOMAS), 1908, A., i, 114.
- Phenylbenzenylamidine** (BUSCH and HOBEIN), 1907, A., i, 1076.
- as*- and *s*-acyl derivatives of (WHEELER, JOHNSON, and MCFARLAND), 1903, A., i, 859.
- Phenylbenzenylamidine**, *o*- and *m*-chloro-, and their derivatives (v. WALTHER and GROSSMANN), 1909, A., i, 56.
- p*-chloro-, and its salts, acyl, carbamide, and thiocarbamide derivatives, and thiocyanate, and the action of picryl chloride and of hydroxylamine hydrochloride on (v. WALTHER), 1903, A., i, 582.
- Phenylbenzenylamino-oxime**, *p*-chloro-, and its salts (v. WALTHER), 1903, A., i, 583.
- Phenylbenzenylamino-oximes**, *o*- and *m*-chloro- (v. WALTHER and GROSSMANN), 1909, A., i, 56.
- Phenylbenzenylhydrazidine** and its hydrochloride (VOSWINCKEL), 1903, A., i, 777.
- Phenylbenzenylphenylaminoamidine** and its isomeride (WHEELER and JOHNSON), 1904, A., i, 628.
- Phenylbenzenylphenylhydrazine**, *o*- and *m*-chloro- (v. WALTHER and GROSSMANN), 1909, A., i, 56.



- Phenylbenzhydrylthiocarbamide**<sup>o</sup> (v. BRAUN and DEUTSCH), 1912, A., i, 694.
- 1-Phenylbenziminazole**, 5-amino-, and its acetyl derivative and salts, and 5-nitro-, and the 2-carboxylic acid of the nitro-compound and its ethyl ester (REISSERT and GOLL), 1905, A., i, 248.
- 5-nitro-, and its salts (v. WALTHER and KESSLER), 1906, A., i, 899.
- 2-Phenylbenziminazole**, synthesis of (PAWLEWSKI), 1903, A., i, 661.
- 2-Phenylbenziminazole**, 6-chloro-, and its carbinol, 6-chloronitro-, and 6-nitro- (FISCHER and LIMMER), 1906, A., i, 897.
- Phenylbenziminazolecarboxylic acid**. See Benziminazolebenzoic acid.
- Phenylbenzoxazoles**. See Diphenylcarboxylic acids.
- Phenylbenzometoxazine**. See Phenyl-dihydro-1:3-benzoxazine.
- 6-Phenyl-1:2:3-9-benzopentazole**, 4-hydroxy- (BÜLOW), 1910, A., i, 81.
- 4-Phenylbenzophenone chloride** (NORRIS, THOMAS, and BROWN), 1911, A., i, 32.
- o-Phenylbenzophenonethiocarbamide** (CARRÉ), 1909, A., i, 262.
- 2-Phenyl-1:4-benzopyranol**, 7-hydroxy-, anhydrohydrochloride and platinichloride of (PERKIN and ROBINSON), 1907, P., 149; 1908, T., 1098.
- 2-Phenyl-1:4-benzopyranol-4-carboxylic acid**, 7-hydroxy-, and its lactone and ester, and diacetate of the ester (BÜLOW and WAGNER), 1903, A., i, 647.
- 2-Phenylbenzopyronium salts** (DECKER and v. FELLEBERG), 1907, A., i, 1065.
- ferrichloride, 7-hydroxy- (DECKER and v. FELLEBERG), 1909, A., i, 117.
- 2-Phenylbenzopyrylium salts**, 7-hydroxy- (DECKER and v. FELLEBERG), 1907, A., i, 950.
- Phenylbenzoquinone**. See Diphenylquinone.
- 5-Phenyl-1:2:4:9-benzotetrazole**, 7-hydroxy- (4-hydroxy-6-phenyl-2:3:7:0-diazopyridazine) (BÜLOW and WEBER), 1909, A., i, 615.
- 2-Phenyl-1:2:4-benzotriazine**, imino-*m*-cyano-amino-, and its hydrochloride (PIERRON), 1908, A., i, 925.
- 1-Phenyl-1:2:3-benzotriazole**, 5-amino-, and 5-nitro- (DELETRA and ULLMANN), 1904, A., i, 271.
- 7-amino-, 4-chloro-7-amino-, 7-nitro-, and *o,p*-dinitro- (BORSCHKE and RANTSCHKEFF), 1911, A., i, 331.
- 1-Phenyl-1:2:3-benzotriazole**, 5-amino-1-*p*-amino-, 5-amino-1-*p*-nitro-, 4-bromo-5-hydroxy-, 4-chloro-5-amino-, 4-chloro-5-amino-1-*p*-amino-, 4-chloro-5-amino-1-*p*-nitro-, 4-chloro-5-hydroxy-, 4:6:3':5'-*tetra*-chloro-5:4'-*dihydroxy*-, 5-hydroxy-, 4:5-*dihydroxy*-, 4-nitro-5-nitro-amino-, and their derivatives (FRIES and EMPSON), 1912, A., i, 659.
- 7-hydroxy- (WOLFF and GRAU), 1912, A., i, 1034.
- p*-hydroxy- (ULLMANN and FUKUI), 1908, A., i, 298.
- 2-Phenyl-1:2:3-benzotriazole**, 5-amino-, change of the colour of fluorescence of, with the solvent (LEY and v. ENGELHARDT), 1908, A., ii, 746.
- 2-Phenyl-2:1:3-benzotriazole** (*phenyl-ψ-aziminobenzene*), ketochlorides and quinones of (ZINCKE and SCHARFF), 1910, A., i, 140.
- 2-Phenyl-2:1:3-benzotriazole**, 5-amino-, 6-chloro-5-nitro-, 4:5:7-*trichloro*-6-hydroxy-, and 4:5-*dichloro*-6:7-*dihydroxy*- (ZINCKE and SCHARFF), 1910, A., i, 141.
- 5:6-*diamino*-, 4-bromo-5-hydroxy-, 4-chloro-5-amino-, *dichloroamino*-, 4-chloro-5-hydroxy-, 4:7-*dichloro*-5:6-*dihydroxy*-2-chloro-, 5-hydroxy-, 4:5-*dihydroxy*-, 5-nitro-6-amino-, 4-nitro-5-hydroxy-, 4-nitroso-5-hydroxy-, and their derivatives (FRIES and ROTH), 1912, A., i, 657.
- p*-hydroxy- (ELBS and KEIPER), 1903, A., i, 662; (GRANDMOUGIN), 1907, A., i, 167.
- 4-nitro- (BORSCHKE and RANTSCHKEFF), 1911, A., i, 331.
- 1-Phenyl-1:2:3-benzotriazolecarboxylic acid** and its ethyl ester (WERNER and PETERS), 1906, A., i, 221.
- 2-Phenyl-2:1:3-benzotriazole-5-diazonium sulphate** (FRIES and ROTH), 1912, A., i, 657.
- 1-Phenyl-1:2:3-benzotriazole-5-sulphonic acid** (SCHWALBE and WOLFF), 1910, P., 340; 1911, T., 107.
- 2-Phenyl-1:3-benzoxazine-4-one** (TITHERLEY), 1910, T., 200; P., 9.
- action of ammonia and amines on (TITHERLEY and HUGHES), 1911, T., 1493; P., 190.
- 2-Phenyl-1:3-benzoxazine-4-one**, 6-bromo- (HUGHES and TITHERLEY), 1910, P., 344; 1911, T., 27.
- 6-chloro- (TITHERLEY and HUGHES), 1910, T., 1376; P., 175.
- action of ammonia on (HUGHES and TITHERLEY), 1912, T., 219; P., 6.

- 2-Phenyl-1:3-benzoxazine-4-one**, 2-hydroxy-, benzoyl derivative (McCONNAN and TITHERLEY), 1906, T., 1338; P., 239.
- 1-Phenylbenzoxazole**, 3-hydroxy- (HENRICH and OFFERMANN), 1904, A., i, 934.
- 5-hydroxy- (HENRICH and WAGNER), 1903, A., i, 89.
- 2-Phenylbenzoxazole** and its derivatives (FISCHER and RÖMER), 1906, A., i, 541.
- 2-Phenyl- $\psi$ -benzoxazole**. See Phenyl-anthranil.
- 2-Phenyl-1:3-benzoxazone** and its 1-acetyl derivative (KEANE and NICHOLLS), 1907, T., 266; P., 36.
- Phenylbenzoyl-**. See also Benzoyl-phenyl-.
- p*-**Phenylbenzoyl cyanide** (VORLÄNDER, FRIEDBERG, VAN DER MERVE, ROSENTHAL, HUTH, and v. BODECKER), 1911, A., i, 866.
- $\alpha$ -**Phenylbenzoylacetic acid**, 2:4-dinitro-, ethyl ester (BORSCHKE), 1909, A., i, 233.
- 4-Phenyl-2-benzoylaminomethylthiazole** (JOHNSON and BURNHAM), 1912, A., i, 305.
- Phenylbenzoylcarbamide** (RIEDEL), 1912, A., i, 774.
- Phenyl  $\alpha$ -benzoylphenyl- $\alpha$ -phenyl-*n*-propyl ketone** (KÖHLER), 1908, A., i, 777.
- N*-**Phenyl-*S*-benzoyldithiourethane** (v. BRAUN), 1904, A., i, 90.
- 1-Phenyl-benzsulphontriazine** (ULLMANN and GROSS), 1910, A., i, 886.
- Phenylbenzylacetone**, 4:4'-dichloro- (STRAUS, KRIER and LUTZ), 1910, A., i, 567.
- Phenylbenzyl-amine**, -methylamine, and -aniline, 2:4-dinitro- (MULDER), 1906, A., i, 491.
- Phenylbenzylaminoacetonitrile** (KNOEVENAGEL and KLUCKE), 1904, A., i, 990.
- 1-Phenylbenzylaminopyrrole-2:5-dibenzoyic acid** and its silver salt and ethyl ester (REISSERT and ENGEL), 1905, A., i, 900.
- Phenylbenzylamyldisulphonephenylmethane** (POSNER and HAZARD), 1903, A., i, 243.
- 4-Phenyl-1-benzyl-3:5-endoanilo-4:5-dihydro-1:2:4-triazole** and its nitrate (BUSCH and BRANDT), 1907, A., i, 261.
- $\alpha$ -**Phenyl- $\beta$ -benzyl- $\delta$ -*o*-anisyl- $\Delta^{\alpha}$ -butylene** (ORECHOFF and MEERSON), 1912, A., i, 621.
- 5-Phenyl-5-benzylbarbituric acid** (FARBENFABRIKEN VORM. F. BAYER & Co.), 1912, A., i, 1025.
- Phenyl-benzyl- and -methylbenzylbenzenylamidines** (LANDER), 1903, T., 327; P., 16.
- 2-Phenyl-1-benzylbenziminazole**, 6-chloro- and its dinitro-derivative (FISCHER and LIMMER), 1906, A., i, 895.
- Phenylbenzylbenzylidenehydrazine** (MICHAELIS), 1908, A., i, 471; (GOLDSCHMIEDT), 1908, A., i, 572.
- Phenylbenzyl-5-benzylidene- $\psi$ -thiohydantoin** (WHEELER and JAMIESON), 1903, A., i, 521.
- $\beta$ -**Phenyl- $\gamma$ -benzylbutyrolactone**,  $\alpha$ -hydroxy- (SPÄTH), 1912, A., i, 978.
- Phenylbenzylcarbamic chloride**, reaction of, with phenylthiourea (DIXON and TAYLOR), 1907, T., 926; P., 120.
- Phenylbenzylcarbinol**, preparation of (HELL), 1904, A., i, 242.
- Phenylbenzylcyanoacetic acid**, ethyl ester (HESSLER), 1904, A., i, 831.
- Phenylbenzyl-*p*-diethylaminobenzylidenehydrazine** (SACHS and MICHAELIS), 1906, A., i, 575.
- N*-**Phenyl- $\alpha$ - and -*N'*-benzyldihydrophenanthraphenazines** (FREUND and RICHARD), 1909, A., i, 418.
- Phenylbenzyl-2:5-dimethoxyphenylcarbinol** (KAUFFMANN and GROMBACH), 1905, A., i, 281.
- Phenylbenzyldimethylammonium** chloride and hydroxide sulphonic anhydride (BADISCHE ANILIN- & SODA-FABRIK), 1911, A., i, 627.
- reduction of, and aurichloride and platinichloride (EMDE and SCHELLBACH), 1911, A., i, 282.
- Phenylbenzyldimethylammoniumdisulphonic acid**, sodium and calcium salts (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1911, A., i, 852.
- Phenylbenzyldimethylammoniumsulphonic acid** (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1912, A., i, 548.
- Phenylbenzylsulphone-dimethylmethane**, -ethane, -methane, and -phenylmethane (POSNER and HAZARD), 1903, A., i, 243.
- dl*-, *d*-, and *l*- $\alpha$ -**Phenyl-*N*-benzylethylamines** and their salts (PARCK), 1912, A., i, 759.
- Phenylbenzylethylcarbinol** and its chloride (KLAGES and HEILMANN), 1904, A., i, 488.

- Phenylbenzylethyl-*n*-propylarsonium**  
*d*-camphor- $\beta$ -sulphonate (WINMILL), 1912, T., 721.
- Phenylbenzylethylpropylsilicane**, preparation of (KIPPING), 1907, T., 221.
- sulphonation of (MARSDEN and KIPPING), 1908, T., 203; P., 12.
- 1-Phenyl-3-benzylethylpyrazolone**, 4-cyano- (SMITH and THORPE), 1907, T., 1907.
- Phenylbenzylfluorene** (KIEGL), 1905, A., i, 187.
- 1-Phenyl-3-benzylformamidine**, 3-hydroxy-, and its salts (LEY and KRAFFT), 1907, A., i, 302.
- $\beta$ -Phenyl- $\alpha$ -benzylglutaconic acid** and its barium and silver salts (FEIST and POMME), 1910, A., i, 39.
- 8-Phenyl-7-benzylguanidine** (TRAUBE and NITZACK), 1906, A., i, 216.
- 1-Phenyl-4-benzylhydantoin**, 2-thio- (BRAUTLECHT), 1911, A., i, 922.
- s-Phenylbenzylhydrazine** and its hydrochloride (PONZIO and VALENTE), 1908, A., i, 458.
- and its salts, and acyl derivatives and their nitroso-derivatives (SCHLENK), 1908, A., i, 737.
- as-Phenylbenzylhydrazine** (OFNER), 1904, A., i, 818.
- action of, on carbamide (MILRATH), 1908, A., i, 581.
- diacetyl derivative (MILRATH), 1908, A., i, 1014.
- Phenylbenzylideneacetophenone**. See Phenyl phenylstyryl ketone.
- p-Phenylbenzylideneamino- $\alpha$ -alkyl-cinnamic acids**, esters, and their liquid crystals (VORLÄNDER and KASTEN), 1908, A., i, 641.
- Phenylbenzylideneazlactone**, action of phenyl mercaptan on (RUHEMANN), 1905, T., 468; P., 123.
- Phenylbenzylidene-*p*-benzoquinone**, 3:5:3':5'-tetrabromo-4'-hydroxy-, and its sodium salt (ZINCKE and WOLLENBERG), 1909, A., i, 25.
- $\beta$ -Phenyl- $\gamma$ -benzylidenebutrylic acid** (REIMER), 1907, A., i, 852.
- $\beta$ -Phenyl- $\gamma$ -benzylidenebutrylic acid**,  $\beta$ -hydroxy-, methyl ester and its dibromide, and  $\gamma$ -bromo- $\beta$ -hydroxy-, methyl ester (KÖHLER and HERITAGE), 1910, A., i, 484.
- $\beta$ -Phenyl- $\gamma$ -benzylidenebutyrophenone**. See  $\beta$ -Phenyl- $\beta$ -styrylpropiofenone.
- $\beta$ -Phenyl- $\gamma$ -benzylidene- $\alpha$ -ethylbutyric acid**,  $\beta$ -hydroxy-, methyl ester (KÖHLER, HERITAGE, and MACLEOD), 1911, A., i, 863.
- $\beta$ -Phenyl- $\gamma$ -benzylidene-ethylmalonic acid** and its methyl ester (REIMER), 1907, A., i, 852.
- $\beta$ -Phenyl- $\alpha$ -benzylideneglutaconic acid** (FEIST and POMME), 1910, A., i, 39.
- 1-and 3-Phenyl-4-benzylidenehydantoin**, and 2-thio- (WHEELER and BRAUTLECHT), 1911, A., i, 500.
- Phenylbenzylidenehydrazine**. See Benzaldehydephenylhydrazone.
- $\beta$ -Phenyl- $\gamma$ -benzylidene- $\alpha$ -methylbutyric acid**,  $\beta$ -hydroxy-, ethyl esters (KÖHLER, HERITAGE, and MACLEOD), 1911, A., i, 862.
- $\beta$ -Phenyl- $\gamma$ -benzylidene- $\alpha$ -methylbutyrophenone** and its dibromide (REIMER and REYNOLDS), 1912, A., i, 769.
- 1-Phenyl-4-benzylidene-3-methyl-5-pyrazolone** and its 4-*p*-chloro-*o*-amino-, 4-*p*-chloro-*o*-nitro-, and 4-*o*-mono- and *di*-nitro-derivatives (SACHS and SICHEL), 1904, A., i, 594.
- condensation of, with ethyl acetate and with deoxybenzoin (KNOEVENAGEL and HEEREN), 1903, A., i, 661.
- 1-Phenyl-4-benzylidene-3-methyl-5-pyrazolone-2'-carboxylic acid** (MICHAELIS, KRUG, LEO, and ZIESEL), 1910, A., i, 514.
- 1-Phenyl-4-benzylidene-3-methyl-5-pyrazolone-3'- and -4'-carboxylic acid** (MICHAELIS and HORN), 1910, A., i, 517.
- Phenylbenzylidenemethylthiosemicarbazide** (MICHAELIS and HADANCK), 1908, A., i, 1020.
- Phenylbenzylidenenitromethane** (KNOEVENAGEL and WALTER), 1905, A., i, 66.
- $\beta$ -Phenyl- $\beta$ -3-benzylidenecyclopentan-2-onylpropiofenones** (GEORGI and VOLAND), 1912, A., i, 781.
- 1-Phenyl-4-benzylidene- $\Delta^1$ -cyclopenten-3-one** and its 4-*o*-hydroxy- and -dimethylamino-derivatives (BORSCHKE and MENZ), 1908, A., i, 148.
- Phenylbenzylidene-*p*-phenylenediamine**, hydrochlorides of (MOORE and WOODBRIDGE), 1908, A., i, 686.
- 3-Phenyl-5-benzylidenerrhodanic acid** (ANDREASCH and ZIPSER), 1903, A., i, 856.
- $\beta$ -Phenyl- $\gamma$ -benzylidenevaleric acid**,  $\beta$ -hydroxy-, methyl ester (KÖHLER and HERITAGE), 1910, A., i, 484.
- Phenyl benzyl ketone**. See Deoxybenzoin.
- Phenylbenzylmalononitrile** (HESSLER), 1904, A., i, 831.



- Phenylbenzylmethylalkylammonium salts**, optically active (THOMAS and JONES), 1905, A., i, 263.
- Phenylbenzylmethylallylammonium salts**, *p*-bromo-, optical activity of (EVERATT), 1908, T., 1236; P., 148.
- camphorsulphonates**, four isomeric (HARVEY), 1905, T., 1481; P., 228.
- hydroxide, rotatory power of (WEDEKIND), 1905, A., i, 520.
- iodides, *d*- and *l*- (HARVEY), 1905, T., 1485; P., 229.
- Phenylbenzylmethylallylarsonium iodide and *d*- $\alpha$ -bromocamphor- $\pi$ -sulphonate** (WINMILL), 1912, T., 724; P., 93.
- Phenylbenzylmethylamine**, *p*-bromo- (EVERATT), 1908, T., 1236.
- Phenylbenzylmethylammonium compounds**, influence of constitution on the rotatory power of (THOMAS and JONES), 1906, T., 286; P., 11.
- Phenylbenzylmethylbutylammonium compounds**, resolution of (FRÖHLICH and WEDEKIND), 1907, A., i, 512.
- Phenylbenzylmethyl-*n*-butylammonium salts**, *p*-bromo-, optical activity of (EVERATT), 1908, T., 1233; P., 148.
- Phenylbenzylmethylisobutylammonium hydroxide**, activation of (WEDEKIND and FRÖHLICH), 1906, A., i, 14.
- Phenylbenzylmethylcarbinol**, preparation of (HELL), 1904, A., i, 242; (DAVIES and KIPPING), 1911, T., 298.
- 2-Phenyl-6-benzyl-5-methyl-1:2-dihydropyridone**, 3-hydroxy- (BLAND and THORPE), 1912, T., 1747.
- Phenylbenzylmethyldihydrotriazole**, *endothio*- (BUSCH and SCHNEIDER), 1903, A., i, 534.
- Phenylbenzylmethylethylammonium bases** (WEDEKIND and FRÖHLICH), 1907, A., i, 122.
- Phenylbenzylmethylethylammonium salts**, *d*- and *l*- (JONES), 1904, T., 223; P., 6.
- 2-Phenyl-1-benzyl-6-methyl-1-ethylpiperidinium iodides**, stereoisomeric (SCHOLTZ and WASSERMANN), 1907, A., i, 341.
- Phenylbenzylmethyl-(methylanilinoethyl)-ammonium salts** (WEDEKIND and MEYER), 1909, A., i, 186.
- $\beta$ -Phenyl- $\alpha$ -benzyl- $\alpha$ -methylpropionamide** (HALLER and BAUER), 1909, A., i, 655.
- Phenylbenzylmethylpropylammonium bases**, resolution of, into their optical antipodes (WEDEKIND and FRÖHLICH), 1905, A., i, 878.
- d*-Phenylbenzylmethylpropylammonium salts** (WEDEKIND), 1906, A., i, 161.
- iodide, rate of auto-racemisation of (WEDEKIND), 1906, A., i, 419.
- l*-Phenylbenzylmethylpropylammonium chloride** (E. and O. WEDEKIND and PASCHKE), 1908, A., i, 335.
- Phenylbenzylmethyl-*n*-propylarsonium iodide** (WINMILL), 1912, T., 721.
- 2-Phenylbenzyl-6-methyl-*n*-propylpiperidinium iodide** (SCHOLTZ), 1910, A., i, 634.
- 1-Phenyl-4-benzyl-3-methylpyrazole** (STOERMER and MARTINSEN), 1907, A., i, 447.
- 1-Phenyl-4-benzyl-3-methylpyrazole**, 5-amino-, and its derivatives (MICHAELIS and PREUNER), 1905, A., i, 478.
- 1-Phenyl-4-benzyl-3-methylpyrazolone** (MICHAELIS and PREUNER), 1905, A., i, 478.
- 2-Phenyl-3-benzyl-7-methylquinoline** (BORSCHKE), 1909, A., i, 957.
- 2-Phenyl-3-benzyl-7-methylquinoline-4-carboxylic acid** (BORSCHKE), 1909, A., i, 957.
- 8-Phenyl-7-benzyl-3-methylxanthine and -1:3-dimethylxanthine** and its hydroxy-derivatives (TRAUBE and NITACK), 1906, A., i, 215.
- 3-Phenyl-2-benzyl-naphthaquinoline-1-carboxylic acid** (BORSCHKE), 1909, A., i, 957.
- Phenylbenzyl- $\alpha$ -naphthylcarbinol** (BAUER), 1909, A., i, 562.
- 5-Phenyl-2-benzylloxazole** and its picate (ROBINSON), 1909, T., 2170; P., 295.
- 4-Phenyl-1-benzylendoxytriazole**, 5-thiol- (BUSCH and OFFERMANN), 1904, A., i, 631.
- $\beta$ -Phenyl- $\beta$ -benzylpropionic acid** and its silver salt (RUHEMANN), 1910, T., 460.
- $\beta$ -Phenyl- $\alpha$ -benzyl- $\alpha$ -propylpropionone** (HALLER and BAUER), 1910, A., i, 490.
- 1-Phenyl-3-benzyl-5-pyrazolone**, 4-cyano- (SMITH and THORPE), 1907, T., 1909.
- 3-Phenyl-1-benzyl-5-pyrazolone**, and 4-oximino- (CURTIUS and SCHNEIDERS), 1912, A., i, 137.
- 2-Phenyl-3-benzylquinoline** (BORSCHKE), 1909, A., i, 957.
- 2-Phenyl-3-benzylquinoline-4-carboxylic acid** (BORSCHKE), 1909, A., i, 957.
- as*-Phenylbenzylsemicarbazide** and its diacetyl derivative (MICHAELIS), 1908, A., i, 471; (MILRATH), 1908 A., i, 581.

- Phenylbenzylsilicanediol** (ROBISON and KIPPING), 1912, T., 2164; P., 245.
- Phenylbenzylsilicol** (MARTIN), 1912, A., i, 404.
- Phenylbenzylsilicon chloride** (MARTIN), 1912, A., i, 404.
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- Phenylbenzylsulphoxide** (PUMMERER), 1910, A., i, 468.
- Phenylbenzylthiocarbamic acid**, ammonium salt (HELLER and MICHEL), 1903, A., i, 477.
- N*-Phenyl- $\beta$ -benzylthiourethane** (v. BRAUN), 1903, A., i, 15.
- Phenylbenzyltriazen** (DIMROTH), 1905, A., i, 312.
- Phenylberberine** and its salts (GADAMER and STEINBRECHER), 1911, A., i, 153.
- iso***Phenylberberine** and its salts (GADAMER and STEINBRECHER), 1911, A., i, 154.
- 6-Phenylbindene-8-one** (KÖHLER), 1907, A., i, 536.
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- Phenylbiurets** and the biuret reaction (SCHIFF), 1907, A., i, 206; (TSCHUGAEFF), 1907, A., i, 595.
- Phenylboric acid** (KHOTINSKY and MELAMED), 1909, A., i, 864.
- Phenylborneol** (CREIGHTON), 1909, A., i, 169.
- $\beta$ -Phenylborneol** (HALLER and BAUER), 1906, A., i, 441.
- Phenylbromoacetic acid**, preparation of (FISCHER and SCHMIDLIN), 1905, A., i, 694.
- methyl ester (COHEN), 1911, T., 1065.
- Phenylbromoacetyl-alanine, -asparagine, -aspartic acid, and -glycine** (FISCHER and SCHMIDLIN), 1905, A., i, 694.
- Phenyl- $\omega$ -bromoamylcyanamide** and *p*-bromo- (v. BRAUN), 1907, A., i, 960.
- $\beta$ -Phenyl- $\gamma$ -bromobenzylidenebutiric acid,  $\beta$ -hydroxy-, methyl ester** (KÖHLER and HERITAGE), 1910, A., i, 484.
- 1-Phenyl-4- $\alpha$ -bromobenzylidenehydantoin**, 2-thio- (JOHNSON and BRATTLECHT), 1911, A., i, 813.
- Phenylbromobutyrolactone**, polymerisation of, with elimination of hydrogen bromide (FITTING and STADLMAYER), 1904, A., i, 969.
- Phenyl  $\alpha\beta$ -*di*bromoethyl ketone**, 4-bromo- (KÖHLER), 1909, A., i, 939.
- s*-**Phenyl-*di*bromo-*o*-hydroxybenzyl- $\alpha$ -*N*-formylhydrazine** and the  $\alpha$ -*N*-formyl-*O*- $\beta$ -*N*-diacetyl, *O*-benzoyl- $\alpha$ -*N*-formyl, and *O*-acetyl- $\alpha$ -*N*-propionyl derivatives and the  $\alpha$ -*N*-propionyl-*O*-benzoate (AUWERS, DANNEHL, and MÜLLER), 1909, A., i, 188.
- s*-**Phenyl-*di*bromo-*o*-hydroxybenzylhydrazine** and its acetyl and benzoyl derivatives (AUWERS and DANNEHL), 1908, A., i, 459.
- Phenyl bromo-*o*-hydroxytolyl and bromo-*o*-hydroxy-*p*-xylyl ketones** (BARTOLOTTI and LINARI), 1903, A., i, 177.
- Phenyl bromo-4-hydroxy-*o*-xylyl ketone** and its oximes (BARTOLOTTI and LINARI), 1903, A., i, 177.
- Phenyl bromo-*p*-methoxystyryl ketone** (WILSON and BOON), 1911, P., 198.
- Phenyl-*di*bromomethylsulphone**, *o*-nitro- (CLAASZ), 1912, A., i, 514.
- Phenyl-*di*- and -*tri*-bromomethylsulphones** (TRÖGER and HILLE), 1905, A., i, 336.
- Phenyl-*di*bromomethylsulphoxide**, *o*-nitro- (CLAASZ), 1912, A., i, 514.
- 1-Phenyl-5-bromophenyl-3-methylpyrazoline** (KÖHLER), 1909, A., i, 940.
- 5-Phenyl-1-*p*-bromophenylpyrazoline** (AUWERS and VOSS), 1910, A., i, 70.
- $\delta$ -Phenyl- $\beta$ -*m*-bromophenylthiosemicarbazide** (BUSCH and REINHARDT), 1910, A., i, 76.
- Phenyl  $\alpha\beta$ -*di*bromopropyl ketone**, 4-bromo- (KÖHLER), 1909, A., i, 940.
- Phenyl-*p*-bromoquinoxanthanol bromide** hydrobromide (GOMBERG and CONE), 1910, A., i, 58.
- Phenyl-*p*-bromoxanthanol** and its bromide (GOMBERG and CONE), 1910, A., i, 58.
- $\alpha$ -Phenyl- $\Delta\gamma$ -butadiene** (KLAGES), 1904, A., i, 568; (v. DER HEIDE), 1904, A., i, 583.
- and its tetrabromide (DOEGNER and SCHMIDT), 1907, A., i, 204.
- optical behaviour of (KLAGES), 1907, A., i, 500.
- addition of hydrogen bromide to (RIEBER), 1911, A., i, 979.
- di*- and *tetra*-bromides (RIEBER), 1903, A., i, 471.
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- 2-Phenylbutadienyl-4-dihydroquinazolinone** methiodide (BOGERT and GEIGER), 1912, A., i, 511.
- Phenylbutadienyltrimethylcyclopentane** (RUPE and FRISSELL), 1905, A., i, 221.
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- $\gamma$ -Phenylbutaldehyde** and its derivatives (v. BRAUN and KRUBER), 1912, A., i, 266.
- Phenylbutanes.** See Butylbenzenes.
- $\alpha$ -Phenylbutan- $\gamma$ -ol** and its salts (VAVON), 1912, A., i, 629.
- $\beta$ -Phenylbutan- $\beta$ -ol- $\gamma$ -one** (*phenyldimethylketol*) and its phenylmethylhydrazone (DIELS and JOHLIN), 1911, A., i, 254.
- $\alpha$ -Phenylbutan- $\beta$ -one** semicarbazone (SENDERENS), 1910, A., i, 489.
- $\alpha$ -Phenylbutan- $\gamma$ -one** and its oxime and its oxime and semicarbazone (SENDERENS), 1911, A., i, 302.
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- p*-nitro-, and its oxime (MECH), 1907, A., i, 63.
- Phenyl- $\Delta^2$ -butene** (STRAUS and MÜLLER), 1906, A., i, 79.
- Phenylcyclobutene** (DOEBNER and SCHMIDT), 1907, A., i, 204.
- $\beta$ -Phenyl- $\Delta\beta$ -butenoic acid**,  $\gamma$ -cyano- (GUARESCHI), 1907, A., i, 1004.
- $\alpha$ -Phenyl- $\Delta\alpha$ -buten- $\gamma$ -ol** and  **$\alpha$ -Phenyl- $\alpha$ -butinen- $\gamma$ -ol** and their reduction (KLAGES, GIESER, and LAUCK), 1906, A., i, 661.
- Phenylbutenylacetylene** (BRACHIN), 1907, A., i, 129.
- Phenylbutenylcarbinol** (v. BRAUN and DEUTSCH), 1912, A., i, 106.
- Phenyl *isobutyl* ketone** and its phenylhydrazone (KÖHLER), 1909, A., i, 940.
- and its *p*-nitrophenylhydrazone (BLAISE and HERMAN), 1911, A., i, 881.
- Phenyl-butenyl(or butadienyl)-trimethylcyclopentenecarboxylic acid** (RUPE and FRISSELL), 1905, A., i, 221.
- Phenylbutinene** (ANDRÉ), 1911, A., i, 277.
- $\delta$ -Phenylbutyl alcohol** and its phenylurethane (v. BRAUN, DEUTSCH, and KRUBER), 1911, A., i, 968.
- $\gamma$ -Phenylisobutyl alcohol** and its acetate and phenylcarbamate (GUERBET), 1908, A., i, 163, 635.
- $\delta$ -Phenylbutyl chloride**, *p*-nitro- (v. BRAUN and DEUTSCH), 1912, A., i, 846.
- nitrite (v. BRAUN and KRUBER), 1912, A., i, 266.
- Phenylbutylamine**, trinitro- (FRANCHIMONT), 1910, A., i, 616.
- $\delta$ -Phenylbutylamine** and its derivatives (v. BRAUN), 1910, A., i, 844.
- $\beta$ -Phenylbutyl anisyl ketone** and its oxime (KÖHLER), 1907, A., i, 1053.
- 1-Phenyl-2-isobutylbenziminazole**, 4:7-dinitro-6-hydroxy- (MELDOLA and KUNTZEN), 1911, T., 2043.
- $\beta$ -Phenyl- $\alpha$ -tert.-butyl- $\beta$ -benzoylpropionic acid** and the action of phenylhydrazine on (JAPP and MAITLAND), 1904, T., 1500.
- Phenylisobutylcarbinol** (SCHORIGIN), 1907, A., i, 754.
- and its dibromide (KLAGES), 1904, A., i, 569.
- Phenyltert.-butylcarbinol** (LEPIN), 1912, A., i, 957.
- $\delta$ -Phenylbutyldimethylamine**, *p*-amino-, *p*-hydroxy-, and their salts (v. BRAUN and DEUTSCH), 1912, A., i, 846.
- $\alpha$ -Phenyl- $\Delta\alpha$ -butylene** and its dibromide and  $\alpha$ -chloro- $\beta$ -bromo- (KUNCKELL and SIECKE), 1903, A., i, 331.
- $\alpha$ -Phenyl- $\Delta\alpha$ -butylene**,  $\gamma$ -amino-, and its acyl derivatives (HARRIES and DE OSA), 1903, A., i, 815.
- $\alpha$ -Phenyl- $\Delta\beta$ -butylene** (FICHTER and ALBER), 1907, A., i, 86.
- and its ozonide (HARRIES and DE OSA), 1904, A., i, 386.
- $\alpha$ -Phenyl- $\Delta\gamma$ -butylene** ( $\Delta^3$ -butenylbenzene) (RIIBER), 1911, A., i, 848.
- $\beta$ -Phenyl- $\Delta\beta$ -butylene** (KLAGES and HAHN), 1903, A., i, 19.
- Phenylbutylenes**, isomeric (HARRIES and DE OSA), 1903, A., i, 815.
- $\alpha$ -Phenyl- $\Delta\alpha$ - and  $\Delta\beta$ -butylenes** (KLAGES), 1904, A., i, 568.
- $\beta$ -Phenylbutylene  $\alpha\beta$ -glycol** and its anhydride (STOERMER, SCHENCK ZU SCHWEINSBERG, SIBBERN-SIBBERS, and RIEBEL), 1906, A., i, 582.
- Phenylbutylene oxide** (TIFFENEAU), 1906, A., i, 966.
- N*-Phenylbutylene- $\psi$ -thiocarbamide.** See 2-Phenylimino-5-ethyltetrahydrothiazole.
- Phenylbutyl cyclohexyl ketone** (KÖHLER and BURNLEY), 1910, A., i, 392.



- $\beta$ -Phenyl- $\beta$ -*n*-butylhydracrylic acid** (SCHROETER and BUCHHOLZ), 1908, A., i, 170.
- $\beta$ -Phenyl- $\beta$ -isobutylhydracrylic acid** (SCHROETER), 1907, A., i, 531.
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- Phenyl isobutyl ketone,  $\alpha$ -bromo-** (KUNCKELL and STAHEL), 1904, A., i, 386.
- p*-bromo-, and its oxime** (KOHLE), 1909, A., i, 394.
- $\epsilon$ -Phenylbutylmalonic acid and its ethyl ester and  $\alpha$ -bromo-** (V. BRAUN and KRUBER), 1912, A., i, 265.
- $\alpha$ -Phenyl-*sec*-butylmalonic acid** (INGLIS), 1911, T., 542.
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- Phenylbutyl methyl ether** (V. BRAUN and DEUTSCH), 1912, A., i, 687.
- $\delta$ -Phenylbutyl methyl ketone and its oxime** (BORSCHKE), 1911, A., i, 880.
- Phenylbutyl-1:3- $\beta$ -naphth<sup>iso</sup>oxazines, 2:4- and 4:2-** (BETTI), 1903, A., i, 510.
- Phenylbutylnitroamine, *trinitro*-** (FRANCHIMONT), 1910, A., i, 616.
- Phenylbutylpiperidylthiocarbamide** (V. BRAUN and DEUTSCH), 1912, A., i, 694.
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- 5-Phenyl-1-*tert*-butyl-1:2:3:4-tetrazole** (SCHROETER), 1911, A., i, 505.
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- 1-Phenyl-2- and -4-*n*-, and -*iso*-butylurazole, and their silver salts** (BRUNEL and ACREE), 1910, A., i, 521.
- $\alpha$ -Phenylbutyric acid, derivatives of** (FARBENFABRIKEN VORM. F. BAYER & Co.), 1912, A., i, 974.
- menthyl ester** (RUPE and BUSOLT), 1909, A., i, 928.
- $\alpha$ -Phenylbutyric acid,  $\alpha$ -amino-, and its nitrile, hydrochloride of** (JAWEL-OFF), 1906, A., i, 427.
- $\alpha$ -hydroxy-, preparation and resolution of** (SMITH), 1912, A., i, 114.
- $\beta$ -Phenylbutyric acid and its derivatives** (SCHROETER), 1907, A., i, 531.
- and its amide and  $\alpha$ -cyano-derivative** (KOHLE and REIMER), 1905, A., i, 348; (KOHLE), 1905, A., i, 701.
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- $\beta$ -Phenylbutyric acid,  $\beta$ -amino-** (POSNER and STIRNUS), 1912, A., i, 456.
- $\beta$ -bromo- $\alpha$ -hydroxy-, ethyl ester** (CLAISEN), 1905, A., i, 287.
- $\beta$ -hydroxy-, and its salts** (MICHNO-VITSCH), 1904, A., i, 417.
- $\gamma$ -Phenylbutyric acid** (SEMMLER), 1906, A., i, 298.
- preparation of** (RUPE and PROSKE), 1910, A., i, 367.
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- lactone of** (HAWORTH), 1909, T., 483.
- $\beta$ -imino- $\alpha$ -cyano-, and its methyl ester and silver salt** (BEST and THORPE), 1908, P., 283; 1909, T., 10.
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- formation and constitution of** (ATKINSON and THORPE), 1906, T., 1916; P., 282.
- $\gamma$ -imino- $\alpha$ -cyano-, ethyl ester, formation and condensation of** (THORPE), 1907, T., 1007; P., 151.
- $\beta$ -iodo- $\gamma$ -hydroxy-, and  $\beta$ -iodo- $\alpha$ -*γ*-di-hydroxy-, lactones of** (BOUGAULT), 1908, A., i, 538.
- l*- $\beta$ -Phenylbutyric acid and its menthyl ester and chloride** (RUPE and BUSOLT), 1909, A., i, 927.
- $\beta$ -Phenylisobutyric acid ( *$\beta$ -phenyl- $\alpha$ -methylpropionic acid*), resolution of** (KIPPING and HUNTER), 1903, T., 1005.
- resolution of, and *d*-, *l*-menthylamine salt, and chloride** (PICKARD and YATES), 1909, T., 1019; P., 152.
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- $\beta$ -Phenylisobutyric acid,  $\beta$ -amino-, and its hydrochloride and benzoyl derivative** (POSNER and STIRNUS), 1912, A., i, 456.
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 hydroxylamino- (POSNER), 1904, A., i, 161.
- Phenylbutyric- $\alpha$ -carboxylic acid**. See  $\alpha$ -Carboxy- $\gamma$ -phenylbutyric acid.
- Phenylbutyrimido-ether**, hydrochloride and diphenylamide derivative (v. BRAUN and KRUBER), 1912, A., i, 265.
- Phenylbutyrolactone**,  $\alpha$ -hydroxy-, and its conversion into  $\beta$ -benzoylpropionic acid (ERLENMEYER), 1903, A., i, 32.
- $\gamma$ -Phenylbutyronitrile** (v. BRAUN), 1910, A., i, 844.
- $\beta$ -Phenylbutyropheneone**, *aaa-trichloro-* (KOHLE), 1907, A., i, 1053.
- $\beta$ -Phenylisobutyropheneone**, two oximes, and phenylhydrazone of (KOHLE), 1909, A., i, 940.
- $\beta$ -Phenylisobutyryl chloride** (*benzyl-methylacetyl chloride*), interaction of, with bases (KIPPING and SALWAY), 1904, T., 443; P., 40.
- Phenylcamphanylthiocarbamide** (v. PAWLEWSKI), 1904, A., i, 237.
- $\beta$ -Phenylcamphene** (HALLER and BAUER), 1906, A., i, 441.
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- Phenylcamphoformeneamine**, *p*-chloro- (TINGLE and BATES), 1911, A., i, 55.
- Phenylcamphoformeneaminecarboxylic acid**, methyl ester and dibenzylamine salt, and *p*-chloro- (TINGLE and BATES), 1911, A., i, 54.
- Phenylcamphoramic acid**, *p*-hydroxy-, isomeric forms of (PIUTTI, LEONE, and D'EMILIO), 1910, A., i, 675.
- Phenyl- $\alpha$ -camphoramic acid**, 3-amino-, and its hydrochloride and acetyl derivative, 4-hydroxy-, and 3-nitro- (WOOTTON), 1910, T., 413.  
 4-amino-, 4-bromo-, 4-bromo-3-amino-, and its acetyl derivative, and 4-bromo-3-nitro- (WOOTTON), 1907, T., 1895; P., 250.
- N*-Phenylcamphorimide**, 4-bromo-, 4-bromo-3-amino-, and 4-bromo-3-nitro- (WOOTTON), 1907, T., 1898; P., 250.  
*p*-hydroxy- (PIUTTI, LEONE, and D'EMILIO), 1910, A., i, 675.
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- Phenylcamphylpyrazolecarboxylic acid** (TINGLE and ROBINSON), 1906, A., i, 903.
- Phenyl-2-camphylsulphone**, 1:4-*dihydroxy-* (BORSCHKE and LANGE), 1906, A., i, 679.
- Phenylcarbamic acid derivatives**, crystallography of (JAEGER), 1906, A., i, 15, 500.  
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 5-hydroxy-*m*-xylyl ester of (CARLINFANTI), 1910, A., i, 733.  
 phenyl ester (SCHOLL and NYBERG), 1906, A., i, 656.
- Phenylcarbamic acid**, 3:5-*dinitro-*, ethyl ester (CURTIUS and RIEDEL), 1907, A., i, 970.
- Phenylcarbamic azoimide**, action of, on glycine (CURTIUS and LENHARD), 1904, A., i, 888.
- Phenylcarbamic hydrazide** and its hydrochloride and acetophenone compound (BORSCHKE), 1905, A., i, 305.
- Phenylcarbamide**, action of, on acetic acid and its chloro-derivatives (VALLÉE), 1905, A., i, 771.  
 action of chlorine on, and 2:4:6-*trichloro-* (CHATTAWAY and CHANEY), 1910, T., 292; P., 22.  
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 action of nitrous acid on (DOHT and HAAGER), 1904, A., i, 236.  
 chloro-derivatives (DOHT), 1906, A., i, 419.
- Phenylcarbamide**, amino- ( *$\alpha$ -phenylsemicarbazide*) (PELLIZZARI), 1907, A., i, 874.  
 reactions of (ROLLA), 1908, A., i, 473.  
*p*-bromo-, *N*-benzoyl derivative, a by-product in the preparation of benzoylbromoamide (MOORE and CEDERHOLM), 1906, A., i, 831.  
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*p*-cyano- (BOGERT and WISE), 1912, A., i, 451.  
*m*- and *p*-cyanamino- (PIERON), 1908, A., i, 925.  
*o*-, *m*-, and *p*-iodo-, and their acetyl derivatives (DOHT), 1905, A., i, 49.

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- Phenylisocarbamide methyl and ethyl ethers**, silver salts of (BRUCE), 1904, A., i, 492.
- Phenylcarbamido-*p*-aminobenzeneazoformamide** (BOISCHE and RECLAIRE), 1907, A., i, 988.
- Phenylcarbamidoazobenzene** and its salts (DIMROTH), 1907, A., i, 654.
- Phenylcarbamidobenzanilides** (BUSCH, BLUME, PUNGS, and FLEISCHMANN), 1909, A., i, 567.
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- Phenylcarbamidodiphenylmethenylamidine** and *p*-chloro- (v. WALTHER), 1906, A., i, 212.
- β*-Phenylcarbamidoethanesulphonic acid** (PAAL and ZITELMANN), 1904, A., i, 100.
- Phenylcarbamidogalactamine** pentaphenylcarbamate (ROUX), 1903, A., i, 73.
- α*-Phenylcarbamido-*β*-*p*-hydroxyphenylpropionic acid** and its salts (PAAL and ZITELMANN), 1904, A., i, 100.
- Phenylcarbamido-leucylglycylglycine** (FISCHER), 1903, A., i, 800.
- 3-Phenylcarbamido-2-methyl-3:4-dihydro-4-quinazoline** (BOGERT and GORTNER), 1909, A., i, 679.
- 4-Phenyl-2-carbamidomethylthiazole** and its hydrobromide (JOHNSON and BURNHAM), 1912, A., i, 306.
- 6-Phenylcarbamido-1-naphthol-3-sulphonic acid**, *p*-amino-, *N*-acetyl derivative (GESELLSCHAFT FÜR CHEMISCHE INDUSTRIE IN BASEL), 1904, A., i, 492.
- 3-Phenylcarbamido-*o*-phthalimide** (BOGERT and JOUARD), 1909, A., i, 306.
- Phenylcarbamidosuccinic acid** (PAAL and ZITELMANN), 1904, A., i, 100.
- s*-1-Phenylcarbamido-1:3:4-triazole** (BÜLOW), 1909, A., i, 681.
- Phenylcarbamotropeine**, salts of (JOWETT and PYMAN), 1909, T., 1027.
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- Phenylcarbamyl-diphenylguanidine** (BUSCH and BLUME), 1907, A., i, 261.
- Phenylcarbamylfurylpyrazolone** (TORREY and ZANETTI), 1910, A., i, 892.
- Phenylcarbamylmethylpyridinium salts** (SCHEDA), 1903, A., i, 410; (SCHMIDT), 1903, A., i, 427.
- Phenylcarbamylmethyl-quinolinium and -isoquinolinium salts** (SCHEDA), 1903, A., i, 410.
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- 9-Phenylcarbazole** (CASSELLA & Co.), 1910, A., i, 775.
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- Phenylcarbimide** (*carbanil*; *phenyl isocyanate*) action of, on monohydric alcohols (BLOCH), 1904, A., i, 152, 236.
- action of, on amino-acids (PAAL and ZITELMANN), 1904, A., i, 100.
- behaviour of carboxylic acids towards (DIECKMANN and BREEST), 1906, A., i, 832.
- interaction of, with 1:3-dicarbonyl compounds (DIECKMANN, HOPPE, and STEIN), 1905, A., i, 135.
- behaviour of hydrogen cyanide towards (DIECKMANN and KÄMMERER), 1905, A., i, 874; 1907, A., i, 979.
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- action of, on certain phenylamic acids (ABATI and GALLO), 1906, A., i, 944.
- action of, on sodium nitromethane and nitroethane (STEINKOPF and DAEGE), 1911, A., i, 280.
- action of, on sulphonic acids (VALLÉE), 1905, A., i, 771.
- formation of carbodiphenylimide from (STOLLÉ), 1908, A., i, 415.
- as reagent for determining the constitution of merotropic compounds (MICHAEL and COBB), 1908, A., i, 947.
- as a reagent for determining the constitution of tautomeric compounds (MICHAEL), 1905, A., i, 195; (GOLD-SCHMIDT), 1905, A., i, 340.
- reactions of (VALLÉE), 1908, A., i, 976.
- Phenylcarbithionic acid** and its salts and *p*-bromo-derivative (HOUBEN and POHL), 1906, A., i, 847.
- salts and esters of (HOHN and BLOCH), 1911, A., i, 48.
- bismuth and iron salts and methyl and ethyl esters (BLOCH and HOHN), 1910, A., i, 256.



**Phenylcarbithionic acid**, *o*-hydroxy-. See Salicylic acid, *dithio*-.

**3-Phenylcarbostyryl** (HÜBNER), 1908, A., i, 288.

**3-Phenylcarbostyryl**, *p*-bromo- (PSCHORR and SCHÜTZ), 1906, A., i, 850.

*o*-*p*-dinitro- (BORSCHKE), 1909, A., i, 386.

**3-Phenylisocarbostyryl**, 2-amino-, and its benzylidene derivative (WÖLFLING), 1906, A., i, 49.

**2-Phenylisocarbostyryl-4-carboxylic acid** and its ethyl ester (DIECKMANN and MEISER), 1908, A., i, 895.

**1-Phenyl-4-*o*-carboxybenzyl-3:5-dimethylpyrazole** (BÜLOW and DESENISS), 1907, A., i, 253.

**3-Phenyl-2-*o*-carboxyphenylquinoline-4-carboxylic acid** (FARBENFABRIKEN VORM. F. BAYER & Co.), 1912, A., i, 1019.

**Phenylcarbylamine** from nitrobenzene and from pyrogallol (BRUNNER and VUILLEUMIER), 1908, A., i, 878.

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**2-Phenylcarveol**. See 2-Phenyl- $\Delta^{8:9}$ -menthadien-2-ol.

**$\omega$ -Phenyl-*p*-chloroacetanilide** (v. WALTHER and GROSSMANN), 1909, A., i, 56.

**Phenylchloroacetic acid**, methyl ester (COHEN), 1911, T., 1065.

***d*-Phenylchloroacetic acid**, preparation of, and conversion into mixtures of *r*- and *l*-mandelic acids, and *r*- and *l*-phenylaminoacetic acids (McKENZIE and CLOUGH), 1909, T., 782.

***l*-Phenylchloroacetic acid**, displacement of halogen in, by hydroxy- and methoxy-groups (McKENZIE and CLOUGH), 1908, T., 811 ; P., 91.

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methyl and ethyl esters (McKENZIE and BARROW), 1911, T., 1917.

***r*-Phenylchloroacetic acid**, resolution of (McKENZIE and CLOUGH), 1908, T., 818 ; P., 91.

**Phenylchloroacetyl tropeine** and its salts and methobromide (JOWETT and PYMAN), 1909, T., 1024.

**1-Phenyl-4- $\alpha$ -chlorobenzylidenehydantoin**, 2-thio- (JOHNSON and BRAUTLECHT), 1911, A., i, 813.

**Phenylchlorocarbamide**, *p*-chloro-, 2:4-dichloro-, and 2:4:6-trichloro- (CHATTAWAY and CHANEY), 1910, T., 294.

**Phenyl***dichlorocarbamide*, *p*-chloro-, 2:4-dichloro-, and 2:4:6-trichloro- (CHATTAWAY and CHANEY), 1910, T., 295.

**Phenyl-*s*-dichlorocarbamide**, 2:4-dichloro- (CHATTAWAY and CHANEY), 1910, T., 297.

**Phenyltrichlorocarbamide**, *p*-chloro-, and 2:4:6-trichloro- (CHATTAWAY and CHANEY), 1910, T., 295.

**Phenyl-1:3-dichloro-4-iodophenylidonium**, 1:3-dichloro-, chloride and other salts (WILLGERODT and BÖLLERT), 1910, A., i, 828.

**Phenylchlorolactic acid** and its derivatives (FOURNEAU), 1907, A., i, 622.

**Phenyltrichloromethylcarbinol** and its benzoate (DINESMANN), 1905, A., i, 645.

**Phenylchloromethylenecamphor** and the action of aniline and alcoholic ammonia on (FORSTER), 1903, T., 104.

**3-Phenyl-1-*o*-chloro-*p*-nitrophenyl-5-methyl-1:2:4-triazole** (PONZIO), 1910, A., i, 444.

**Phenyl-*p*-chlorophenylethenylamidine** and its additive salts (v. WALTHER and GROSSMANN), 1909, A., i, 55.

**Phenyl-*m*- and -*p*-chlorophenylethenylamidines** and their additive salts (v. WALTHER and GROSSMANN), 1909, A., i, 56.

**Phenyl-1:3-dichlorophenylidonium iodide** and other salts (WILLGERODT and BÖLLERT), 1910, A., i, 828.

**Phenyl-*s*-trichlorophenylidonium chloride** and iodide (WILLGERODT and WILCKE), 1910, A., i, 828.

**5-Phenyl-2-*o*-chlorophenylloxazole** (LISTER and ROBINSON), 1912, T., 1302.

**1-Phenyl-4-*p*-chlorophenyl-3-phenoxy-methylpyrazolone**, 5-imino-, and its derivatives (v. WALTHER and HERSCHEL), 1911, A., i, 238.

**5-Phenyl- $\beta$ -*m*-chlorophenylthiosemicarbazide** (BUSCH and REINHARDT), 1910, A., i, 76.

**Phenylchloroisopropyl alcohol** and its acyl derivatives (FOURNEAU and TIFFENEAU), 1908, A., i, 163.

**Phenyl-*p*-chloroquinioxanthanol chloride hydrochloride** (GOMBERG and CONE), 1910, A., i, 58.

**Phenyl-*p*-chlorostyrylchlorobromomethane**, *p*-chloro- (STRAUS, ACKERMANN, and LUTZ), 1910, A., i, 120.

**Phenyl-*p*-chlorostyryldichloromethane**, *p*-chloro- (STRAUS and ACKERMANN), 1909, A., i, 490.

- Phenyl *p*-chlorostyryl ketone**, *p*-chloro-(*pp*-dichlorobenzylideneacetophenone), and its derivatives (STRAUS and ACKERMANN), 1909, A., i, 489.
- Phenyl-6-chloro-1-tolyl-3-thiocarbamide** (BAMBERGER and DE WERRA), 1903, A., i, 22; (BAMBERGER, TER-SARKISSJANZ, and DE WERRA), 1903, A., i, 25.
- Phenyldichlorovinylidonium bromide** (THIELE and HAAKH), 1909, A., i, 866.
- Phenyl-*p*-chloroxanthanol** and its chloride (GOMBERG and CONE), 1910, A., i, 57.
- Phenylchrysofluorene** and its alcohol (ULMANN and MOURAWIEW-WINIGRADOFF), 1905, A., i, 642.
- 2-Phenyleinchonic acid** (*atophan*), influence of, on purine metabolism (STARKENSTEIN), 1911, A., ii, 753; (FROMHERZ), 1911, A., ii, 1016.  
influence of, on uric acid formation (FRANK and PRZEDBORSKI), 1912, A., ii, 659.  
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methyl ester and amide (MEYER), 1907, A., i, 342.
- 2-Phenyleinchonic acid**, 6- and 7-chloro- and 7-hydroxy- (BORSCHKE), 1909, A., i, 53.
- 3-Phenyleinchonic acid** and its derivatives (HÜBNER), 1908, A., i, 288.  
and its salts, esters, amide, anilide, and hydrazide (HÜBNER), 1906, A., i, 383.
- Phenyleinchotoxile**, chloro-, and its picrate and platinichloride (COMAN-NUCCI), 1910, A., i, 583.
- Phenyleinchotoxol** (COMANUCCI and MELONE), 1909, A., i, 409.  
salts and derivatives of (COMANUCCI), 1910, A., i, 582.
- Phenylcinnamaldehyde** (PLANCHER and PICCININI), 1905, A., i, 706.
- $\alpha$ -Phenylcinnamenylacrylic acid** and its methyl ester (MICHAEL and LEIGHTON), 1904, A., i, 243.  
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*di*bromide, constitution of (MICHAEL and LEIGHTON), 1904, A., i, 242; (HINRICHSSEN), 1904, A., i, 415.  
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- $\alpha$ -Phenylcinnamenylacrylic acid**, *p*-nitro-, and its salts, bromo-lactone, dibromide, methyl ester and nitrile (HINRICHSSEN and REIMER), 1904, A., i, 414, 1013.
- $\alpha$ -Phenylcinnamenylacrylic acid**, *p*-nitro-, methyl ester, oxidation of (HINRICHSSEN and REIMER), 1905, A., i, 132.
- $\alpha$ -Phenylcinnamic acid**, esters, action of magnesium organic compounds on (KÖHLER and HERITAGE), 1905, A., i, 208.  
phenyl ester (KÖHLER and HERITAGE), 1906, A., i, 96.
- $\alpha$ -Phenylcinnamic acid**, 2-amino-3-hydroxy- (PSCHORR and QUADE), 1906, A., i, 851.  
2-amino-5-hydroxy-, and 2-nitro-5-hydroxy- (PSCHORR and QUADE), 1906, A., i, 851.  
*o*-bromo-*o*-amino-, and *o*-bromo-*o*-nitro- (PSCHORR and TREIDEL), 1912, A., i, 766.  
*p*-bromo-2-amino-, and *p*-bromo-2-nitro- (PSCHORR and SCHÜTZ), 1906, A., i, 850.  
*p*-hydroxy-, and its methyl ester, and their acetyl derivatives (ZINCKE and GEIBEL), 1906, A., i, 739.  
*o*:2-*dinitro*- (PSCHORR and POPOVICI), 1906, A., i, 851.
- $\beta$ -Phenylcinnamic acid** (KÖHLER and HERITAGE), 1905, A., i, 208; (KÖHLER and JOHNSTIN), 1905, A., i, 215.  
and its salts (RUPE and BUSOLT), 1908, A., i, 23.  
and its nitrile and  $\alpha$ -cyano-derivative (KÖHLER and REIMER), 1905, A., i, 347.  
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- Phenylcinnamic acids**, photochemical reactions of (BAKUNIN), 1912, A., i, 356.
- $\alpha$ - and  $\beta$ -Phenylcinnamic acids**, menthyl esters (RUPE and BUSOLT), 1909, A., i, 928.
- $\alpha$ -Phenylcinnamic anhydride**, *o*:2-*di*-amino-. See 3-Benzylideneoxindole, *o*-amino-.
- $\alpha$ -Phenylcinnamonitrile** (*benzylidenebenzyl cyanide*), action of hydrogen cyanide on (KNOEVENAGEL and SCHLÜCHTERER), 1904, A., i, 1028.  
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- Phenylcinnamoylmesitylene** (KÖHLER), 1907, A., i, 1054.
- Phenylcinnamyltrimethylammonium salts** (EMDE), 1909, A., i, 565; (EMDE and FRANKE), 1909, A., i, 709.
- Phenylcinnamylene-*p*-phenylenediamine** and its hydrochlorides (MOORE and WOODBRIDGE), 1908, A., i, 686.

- $\alpha$ -Phenylcinnamylidenecetic acid**, methyl ester, reaction of, with organic magnesium compounds (REIMER and REYNOLDS), 1908, A., i, 988.
- $\beta$ -Phenylcinnamylidenecetic acid** (KÖHLER, HERITAGE, and MACLEOD), 1911, A., i, 863.
- $\beta$ -Phenyl- $\gamma$ -cinnamylidenecarboxylic acid**,  $\beta$ -hydroxy-, methyl ester (KÖHLER and HERITAGE), 1910, A., i, 485.
- 1-Phenyl-4-cinnamylidenethiodantoin**, 2-thio- (WHEELER and BRAUTLECHT), 1911, A., i, 501.
- Phenyl cinnamylidenemethyl ketone** (*cinnamylidenecetophenone*), action of light on (STOBBE and RÜCKER), 1911, A., i, 385.  
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- 2-Phenyl-4-cinnamylidenecarbazole** (ERLENMEYER and MATTER), 1905, A., i, 238.
- 3-Phenyl-5-cinnamylidenecarbazole** (ANDREASCH and ZIPSER), 1903, A., i, 856.
- 4-Phenylcinnoline** and its salts, methochloride, and methiodide (STOERMER and FINCKE), 1909, A., i, 842.
- 4-Phenylcinnoline**,  $p$ -hydroxy-, and its salts (STOERMER and GAUS), 1912, A., i, 1026.
- 4-Phenylcinnolinic acid**. See 4-Phenylpyridazine-5:6-dicarboxylic acid.
- Phenylcitracconamic acid**,  $p$ -hydroxy- (PIUTTI, PAGNIELLO, and MARCIANO), 1910, A., i, 672.
- Phenylcitracconimide**,  $p$ -hydroxy- (PIUTTI, PAGNIELLO, and MARCIANO), 1910, A., i, 672.
- $N$ -Phenyl- $\beta$ -cyclocitraloxime** (ALESSANDRI), 1910, A., i, 753.
- 1-Phenylcitronellol** (AUSTERWEIL and COCHIN), 1910, A., i, 572.
- 10-Phenylceroxene** (DECKER and SASSU), 1906, A., i, 689.
- $\alpha$ -Phenylcoumaran**,  $p$ -hydroxy-, and its acetyl derivative and methyl ether (WERNER, SCHORNDORFF, and CHOROWER), 1906, A., i, 181.
- Phenylcoumarans**, 1- and 2- (STOERMER and REUTER), 1904, A., i, 181.
- 3-Phenylcoumarin** (BORSCH and STREITBERGER), 1904, A., i, 893.
- 3-Phenylcoumarin**,  $o$ -nitro- (BORSCH), 1909, A., i, 925.  
 $o$ - $p$ -dinitro- (BORSCH), 1909, A., i, 386.  
2:6-dinitro- (BORSCH and RANTSCHKEFF), 1911, A., i, 332.
- 4-Phenylcoumarin** (STOERMER and FRIDERICI), 1908, A., i, 180.
- 4-Phenylcoumarin**, 4:4'-dihydroxy- (BARGELLINI and LEONARDI), 1911, A., i, 902.
- 3-Phenylisocoumarin**, action of hydrazine on (WÖBLING), 1906, A., i, 49.
- 4-Phenylcoumarins** (BARGELLINI and LEONARDI), 1911, A., i, 901; (BARGELLINI and FORLI-FORTI), 1911, A., i, 902.
- 1-Phenylcoumarone**, bromo- (STOERMER and DECKER), 1911, A., i, 665.
- 2-Phenylcoumarone** (STOERMER and KIPPE), 1904, A., i, 183.
- 2-Phenylcoumarone**, 1-bromo-, and 1-nitro- (STOERMER and DECKER), 1911, A., i, 665.  
2- $p$ -bromo-, 2- $p$ -chloro-, 1-chloro-2- $p$ -bromo-, and 1-chloro-2- $p$ -chloro- (STOERMER and HILDEBRANDT), 1911, A., i, 666.
- Phenylcoumarones** and their bromo- and chloro-derivatives (STOERMER and REUTER), 1904, A., i, 181.
- Phenylisocrotonamide** (KÖHL), 1903, A., i, 234.
- $\alpha$ -Phenylcrotonic acid** (*methylatropic acid*), ethyl ester (DIMROTH and FEUCHTER), 1903, A., i, 631.  
menthyl ester (RUPE and BUSOLT), 1909, A., i, 928.
- Phenylisocrotonic acid**, polymerisation of (FITTIG and HADORFF), 1904, A., i, 968.  
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- Phenylisocrotonic acid**, methyl ester,  $\psi$ -nitrosite and nitro-oxime of (WIELAND), 1904, A., i, 55.  
 volumetric estimation of (BOUGAULT), 1908, A., i, 983.
- $\alpha$ -Phenylisocrotonic acid**, hydroxy- (ERLENMEYER), 1905, A., i, 785.
- Phenylcrotonic acids**,  $\alpha\beta$ - and  $\beta\gamma$ - (VORLÄNDER and STRUNCK), 1906, A., i, 367.
- Phenylisocrotophenone** and its oxime and *O*-benzoyl derivative (WIELAND and STENZL), 1908, A., i, 35.
- Phenylcuminaldoxime** (PLANCHER and PICCININI), 1905, A., i, 706.
- 3-Phenyl-5-cumylidenerhodanine** (NÄGELE), 1912, A., i, 795.
- Phenyl- $\psi$ -cumylhydrazine**, 5-chloro-2-nitro-, and *op*-dinitro- (WILLGERODT and HERZOG), 1905, A., i, 549.
- 2-Phenyl-4-cumylideneoxazolone** (ERLENMEYER and MATTER), 1905, A., i, 238.
- Phenyl- $\psi$ -cumyliodonium hydroxide**, salts of (WILLGERODT and MEYER), 1912, A., i, 22.
- Phenyl- $\psi$ -cumyloxamide** (SUIDA), 1910, A., i, 665.
- Phenylcyanamide**, amino- ( $\alpha$ -cyano-phenylhydrazine) (PELLIZZARI), 1907, A., i, 874.  
 condensation of, with aldehydes and ketones (ROLLA), 1907, A., i, 875.  
*o*-, *m*-, and *p*-bromo- (PIERRON), 1907, A., i, 121.  
*p*-iodo-, and the carbamide (PIERRON), 1908, A., i, 925.  
*o*-, *m*-, and *p*-nitro-, and their benzoyl derivatives (PIERRON), 1905, A., i, 125.
- Phenylcyanoacetic acid** and its ethyl ester and amide (HESSLER), 1904, A., i, 830.  
 lead and calcium salts (HADLEY), 1912, A., i, 699.
- Phenyl- $\alpha$ -cyanoacrylamide**, 3:4-*di*hydroxy-, and its 3-methyl ether, bromo-derivatives of (PICCININI), 1905, A., i, 599.
- Phenylcyanocarbamide**, *p*-bromo-, and its copper and potassium salts, and silver-ammonia derivative (BÖSEKEN and COUVERT), 1910, A., i, 644.
- Phenylcyanocarbodi-imide**, imino-ether of (KÄMPF), 1904, A., i, 535.
- Phenyl- $\alpha$ -cyanoethyl-carbamide** and -thiocarbamide (DELÉPINE), 1904, A., i, 149.
- Phenylcyanomethylenecamphor** and its derivatives (FORSTER and WITHERS), 1911, P., 327; 1912, T., 1337.
- $\beta$ -Phenylcyanovinylacetic acid**, *m*-nitro- (ISSOGLIO), 1904, A., i, 525.
- 2-Phenyl-*p*-cymene** (KLAGES and SOMMER), 1906, A., i, 567.  
 optical constants of, and its **sulphonic acid** and its derivatives (KLAGES), 1907, A., i, 598.
- $\beta$ -Phenyldesoxyn** (NASTUKOFF), 1907, A., i, 413.
- N*-Phenyldiacetonitrile** and its phenylhydrazine derivative, and *m*- and *p*-chloro- and *p*-hydroxy-derivatives (v. MEYER and SCHUMACHER), 1908, A., i, 909.
- Phenyldialkylcarbinol-*o*-sulphon-ethyl- and -methyl-amides** and their derivatives (SACHS, v. WOLFF, and LUDWIG), 1904, A., i, 876.
- $\alpha$ -Phenyl- $\alpha\gamma$ -dialkylsulphonehexan- $\gamma$ -ones** (POSNER), 1904, A., i, 324.
- $\alpha$ -Phenyl-*bb*-*di*-*sec*-.amylcarbamide** (MAILHE), 1905, A., i, 635.
- Phenyldiisomylcarbinol** (SCHORIGIN), 1907, A., i, 754.
- Phenyldi-*p*-anisylcarbinol** and its derivatives (v. BAEYER, VILLIGER, and HALLENSLEBEN), 1903, A., i, 812.  
 chloride hydrochloride (GOMBERG and CONE), 1910, A., i, 58.
- Phenyldi-*o*- and -*m*-anisylcarbinols** (v. BAEYER), 1907, A., i, 760.
- Phenyldi-*o*-anisylmethane** (v. BAEYER), 1907, A., i, 760.
- ms*-Phenyl-1:2:1':2'-dianthracene-xanthen** (ULLMANN and ÜRMÉNYI), 1912, A., i, 717.
- ms*-Phenyl-1:2:1':2'-dianthraquinone-xanthen** (ULLMANN and ÜRMÉNYI), 1912, A., i, 717.
- Phenyldiazoaminobenzene** and its salts (VIGNON and SIMONET), 1904, A., i, 637.  
 bromo-, chloro-, iodo-, and nitro-derivatives (VIGNON and SIMONET), 1904, A., i, 1065.
- Phenyldiazo-1:2:4-triazole hydrate** (MANCHOT), 1910, A., i, 442.
- 6-Phenyl-2:3:7:0-diazpyridazine**, 4-hydroxy-. See 5-Phenyl-1:2:4:9-benzotetrazole, 7-hydroxy-.
- 1-Phenyl-2:5-dibenzhydryl-1:3:4-triazole**, and *di*- $\omega$ -chloro- (STOLLÉ and LAUX), 1911, A., i, 509.
- 1-Phenyl-2:5-dibenzhydryl-1:3:4-triazole**, 1-*p*-hydroxy- (STOLLÉ and SCHMIDT), 1912, A., i, 1035.
- 9-Phenyldibenzopyronium** and its derivatives (DECKER and FELSNER), 1908, A., i, 1003.
- Phenyldibenzylazonium bromide** (PONZIO and VALENTE), 1908, A., i, 458.

- Phenyldibenzylcarbinol** (KLAGES and HEILMANN), 1904, A., i, 488.  
preparation of (DAVIES and KIPPING), 1911, T., 299.
- dl*-, *d*-, and *l*- **$\alpha$ -Phenyl-*N*-dibenzylethylamines** and their salts (PARCK), 1912, A., i, 759.
- Phenyldibenzylethylcarbinol** and its chloride (ORECHOFF and KONWALOFF), 1912, A., i, 436.
- $\alpha$ -Phenyl- $\alpha\beta$ -dibenzylhydrazine**, acetyl and benzoyl derivatives of (FRANZEN and KRAFT), 1911, A., i, 817.
- 2-Phenyl-1:3 dibenzylhydrobenzimidazole**, *o*-hydroxy- (FISCHER and VEIEL), 1905, A., i, 246.
- 1-Phenyl-2:4-dibenzylidenecyclopentan-3-one** (BORSCHKE and MENZ), 1908, A., i, 149.
- Phenyldibenzyl-methyl- and -methyl-ethyl-ammonium methyl sulphates** (FRÖHLICH), 1909, A., i, 376.
- 5-Phenyl-2:4-dibenzylpyrimidine**, 6-amino- (*cyanbenzylgline*) (V. WALTHER), 1903, A., i, 582.  
formation of (ATKINSON and THORPE), 1906, T., 1931.
- Phenyldibutylhydrazine** bromide and iodide (ALLAIN LECANU), 1905, A., i, 376.
- Phenyldicamphorylcarbinol** (MALMGREN), 1903, A., i, 711.
- Phenyldicinnamylmethylammonium chloride** and platinichloride (EMDE and FRANKE), 1909, A., i, 709.
- 5-Phenyl-3:4-dicumylphenol** and its acetate (GARNER), 1904, A., i, 253.
- Phenyl-*p*-diethylaminobenzylidenacetoneitrile** and *p*-nitro- (SACHS and MICHAELIS), 1906, A., i, 576.
- Phenyldiethylaminodimethylcarbinol** (RIEDEL), 1906, A., i, 632.
- Phenyldiethylammonium periodides** (STRÖMHOLM), 1903, A., i, 462.  
platinibromide (GUTHRIE, BAURIEDL, and OBERMAIER), 1911, A., i, 33.
- Phenyldiethylarsine dibromide** and diiodide (WINMILL), 1912, T., 720.
- 1-Phenyl-5:5-diethylbarbituric acid** (FISCHER and DILTHER), 1905, A., i, 36; (CONRAD and ZART), 1905, A., i, 753.
- 1-Phenyl-5:5-diethylbarbituric acid**, 4-imino- (CONRAD and ZART), 1905, A., i, 753.
- Phenyldiethylbenzamidine** and its additive salts (V. BRAUN), 1904, A., i, 688.
- Phenyldiethylcarbinol** (KLING), 1904, A., i, 2; (GRIGNARD), 1904, A., i, 214.
- Phenyldiethylcarbinol and its chloride** (KLAGES), 1904, A., i, 28.
- Phenyldiethylcarbinol**, *o*-hydroxy-, and its methyl ether (MOUNIÉ), 1903, A., i, 482.
- Phenyldiethylcarbonylacetic acid**. See  **$\alpha$ -Phenyl- $\beta$ -ethylvaleric acid**.
- Phenyl- $\alpha\beta$ -diethylhydrazine** (TICHWINSKY), 1905, A., i, 92, 93.  
and its benzoyl derivative and nitrosoamine (BAMBERGER and TICHWINSKY), 1903, A., i, 131; (TICHWINSKY), 1903, A., i, 442.
- $\alpha$ -Phenyl- $\beta\beta$ -diethylhydrazine** (TICHWINSKY), 1905, A., i, 93.  
and its derivatives (WIELAND and FRESSL), 1911, A., i, 495.
- Phenyldiethylmethane** ( *$\alpha$ -ethylpropylbenzene*) and its sulphonic acid and amide (KLAGES), 1904, A., i, 28.
- $\alpha$ -Phenyl- $\beta\beta$ -di-*p*-ethylphenylpropionic acid** and its ethyl ester (BISTRZYCKI and MAURON), 1910, A., i, 845.
- $\beta$ -Phenyl- $\alpha\alpha$ -diethylpropiophenone** (HALLER and BAUER), 1910, A., i, 490.
- $\beta$ -Phenyl- $\alpha\alpha$ -diethylpropionyl chloride** (HALLER and BAUER), 1910, A., i, 490.
- 1-Phenyl-4:4-diethyl-5-pyrazolone**, 3-hydroxy-, and its imide and acetyl and methyl ethers (CONRAD and ZART), 1906, A., i, 609.
- Phenyldiethylsilicol** (KIPPING and HACKFORD), 1911, T., 141; P., 9.
- Phenyldiethyltriazan**. See **Ethyl-aniline**.\*
- 1-Phenyl-3:5-diethylurazole** (WHEELER and JOHNSON), 1903, A., i, 693.
- Phenyldiguaiacylmethane** (MANCHOT), 1910, A., i, 314.
- Phenyldiguanide**, amino- and nitro-derivatives, and their additive salts (HERMANN), 1905, A., i, 950.  
*p*-hydroxy-, salts of (A. and L. LUMIÈRE and PERRIN), 1905, A., i, 250.  
*m*-nitro-, and its salts (COHN), 1911, A., i, 928.
- Phenyldiguanide-*p*-carboxylic acid**, ethyl ester, and salts of (COHN), 1911, A., i, 929.
- Phenyldiguanide-*o*-carboxylic anhydride** and its hydrochloride (COHN), 1911, A., i, 929.
- Phenyldicyclohexylcarbinol** (GODCHOT), 1910, A., i, 105.
- Phenyldicyclohexylmethane**, preparation of (GODCHOT), 1909, A., i, 19.

\* A correction; not a synonym.

- Phenyldicyclohexylmethane**, nitro-derivatives of (GODCHOT), 1910, A., i, 104.
- 10-Phenyldihydroacridine** (ULLMANN and MAAG), 1907, A., i, 639.
- Phenyldihydroanthranil** (BAEZNER and GARDIOL), 1906, A., i, 673.
- Phenyldihydro-1:3-benzoxazine**, acyl-salicylamide and acylhydroxyamine groups, labile isomerism among (TITHERLEY and HICKS), 1909, T., 908; P., 95.
- 2-Phenyldihydro-1:3-benzoxazine-4-one**, preparation and reactions of (TITHERLEY), 1907, T., 1425; P., 203.
- 2-Phenyldihydro-1:3-benzoxazine-4-one**, 6-bromo- (HUGHES and TITHERLEY), 1910, P., 344; 1911, T., 23.
- 6-chloro- (TITHERLEY and HUGHES), 1910, T., 1374; P., 175.
- $\alpha$ -Phenyldihydroberberine** (MERCK), 1907, A., i, 435.
- and its salts (FREUND and BECK), 1905, A., i, 151.
- $\beta$ -Phenyldihydrocampholenic acid**, synthesis of (EYKMAN), 1908, A., i, 23.
- 3-Phenyldihydroisocoumarin**, 4-bromo-4-cyano- (GYR), 1907, A., i, 417.
- 4-Phenyldihydro-1:2:3:4:6-dioxatriazine**, 3:6-dihydroxy-, and its salts (JOVITSCHITSCH), 1907, A., i, 99.
- 1-Phenyl-4:5-dihydro-5-glyoxalone-2-carboxyanilide**, 4-oximino- (DIMROTH and DIENSTBACH), 1909, A., i, 64.
- 2-Phenyldihydroisindole**, methiodide of (SCHOLTZ and WOLFRUM), 1910, A., i, 772.
- Phenyldihydroisolaurenic acid**, synthesis of (EYKMAN), 1908, A., i, 23.
- 11-Phenyldihydronaphthacenequinone**, 6:6:11:(?)-tetrahydroxy-, and its acetyl derivative (VOSWINCKEL), 1909, A., i, 167.
- 7-Phenyldihydro- $\beta$ -naphthacridine** and *m*- and *p*-nitro- (HAASE), 1903, A., i, 366; (ULLMANN and FETVADJIAN), 1903, A., i, 521.
- Phenyldihydronaphthaquinolinedicarboxylic acid**, ethyl ester (SIMON and MAUGIN), 1906, A., i, 888.
- 2-Phenyldihydronaphthatriazine**, imino-, hydrochloride of (PIERON), 1908, A., i, 926.
- 1-Phenyl-1:3-dihydro-2-perimidone**, *op*-dinitro- (SACHS and FORSTER), 1911, A., i, 755.
- as*-N-Phenyldihydrophenanthraphenazine**, acetyl derivative (HINSBERG), 1909, A., i, 845.
- 10-Phenyldihydrophenazine**, 1:3:7-*tri*-amino-, and 1:3:7-*trinitro*- (KEHRMANN and RIERA Y PUNTI), 1911, A., i, 926.
- 7-Phenyldihydro- $\alpha\beta$ -phenonaphthacridine**, 10-hydroxy-, and its acetyl derivative (POPE and HOWARD), 1910, T., 976.
- 2-Phenyl-1:2-dihydrophthalazine**, 1-hydroxy-, and its ethers (THIELE and FALK), 1906, A., i, 751.
- 3-Phenyldihydroprazoquinazolone**, 6-amino-, and its benzylidene derivative, 4:6-dichloro-, and 6-oximino- (MICHAELIS and LEO), 1910, A., i, 515.
- 4-Phenyl- $\Delta^{3:6}$ -dihydropyridone**, cyano-6-hydroxy-, and its metallic derivatives (GUARESCHI), 1905, A., i, 824.
- 4-Phenyl- $\Delta^{3:6}$ -dihydropyridones**, *m*- and *p*-nitro-3:5-dicyano-6-hydroxy-, and their salts (ISSOGLIO), 1904, A., i, 525.
- 3-Phenyldihydroquinazoline** (*orexine*), benzoylation of (HELLER and KÜHN), 1904, A., i, 943.
- 2-Phenyl-3:4-dihydro-4-quinazolone** (v. WALTHER), 1903, A., i, 583; (FINGER and SCHUPP), 1906, A., i, 901; (FINGER), 1907, A., i, 876.
- 2-Phenyl-3:4-dihydro-4-quinazolone**, *o*-amino-, and its acetyl derivative (MOHR and KÜHLER), 1910, A., i, 116.
- 3-Phenyl-3:4-dihydro-4-quinazolone**, 2-amino- and 2-chloro- (WHEELER, JOHNSON, and MCFARLAND), 1903, A., i, 860.
- 1-Phenyl-3:4-dihydroisquinoline**, salts of (DECKER and KROPP), 1909, A., i, 513; (PICTET and KAY), 1909, A., i, 514.
- 1-Phenyl-1:2-dihydro-2-quinoxalone** and its 3-carboxylic acid (KÜHLING and KASELITZ), 1906, A., i, 463.
- 1-Phenyl-1:2-dihydro-2-quinoxalone**, 6-amino-, and its diacetyl derivative, and 6-nitro- (REISSERT and GOLL), 1905, A., i, 247.
- Phenyldihydroresorcinol** and its oximes (GITTEL), 1906, A., i, 171.
- O*- and *C*-acetyl derivatives and their reactions (DIECKMANN and STEIN), 1904, A., i, 874.
- Phenyldihydrothebaine** and its additive salts, methyl and ethyl ethers, and acetyl derivative, and their methiodides (FREUND), 1905, A., i, 918.
- Phenyldihydrothebenol** and its methyl and ethyl ethers (FREUND), 1905, A., i, 918.



- 1-Phenyl-4:5-dihydro-1:2:4-triazole, 3-amino-5-thio- (FROMM and SCHNEIDER), 1906, A., i, 714.
- Phenyldihydro-uracil and -thiouracil (POSNER), 1905, A., i, 578, 776.
- Phenyldi-*o*-hydroxybenzilozones, *p*-bromo-,  $\alpha$ - and  $\beta$ -, and their acetyl derivatives (BILTZ and SIEDEN), 1903, A., i, 120.
- Phenyldi- $\alpha$ -hydroxybenzylfulvene (THIELE and BALHORN), 1906, A., i, 640.
- Phenyldi- $\beta$ -hydroxynaphthylmethane, anhydride of, and its nitration, and the action of sulphuric acid on (MACKENZIE and JOSEPH), 1904, T., 793; P., 124.
- $\alpha$ -Phenyl-3:4-dimethoxycinnamic acid, *o*-bromo-2-amino- and *o*-bromo-2-nitro- (PSCHORR and POPOVICI), 1906, A., i, 850.
- 2-Phenyl-4-di-*m*-methoxyphenyl-1:4-benzopyranol, 5:7-di-hydroxy-, and its salts (BÜLOW and RIESS), 1904, A., i, 82.
- Phenyl-2:5-dimethoxyphenylethylcarbinol (KAUFFMANN and GROMBACH), 1905, A., i, 281.
- $\alpha$ -Phenyl- $\alpha$ -2:5-dimethoxyphenylpropylene and its bromo-derivatives (KAUFFMANN and GROMBACH), 1905, A., i, 281.
- 1-Phenyl-2:5-di-*p*-methoxyphenyl-1:3:4-triazole (STOLLÉ and BAMBACH), 1906, A., i, 710.
- Phenyldimethylacetic acid. See  $\alpha$ -Phenyl- $\alpha$ -methylpropionic acid.
- 9-Phenyl-2:7-dimethylacridine and its hydride and *m*- and *p*-amino- and *m*- and *p*-nitro- (ULLMANN and WEINTRAUB), 1903, A., i, 519.
- 5-Phenyl-3:7-dimethylacridine, 2:8-di-amino-. See Benzoflavine.
- 2:8-di-hydroxy-. See Benzoflavol.
- Phenyldimethylallyl ammonium compounds, resolution of (HARVEY), 1904, T., 412; P., 64.
- bromide, *p*-bromo-, rate of formation and decomposition of, in various solvents (v. HALBAN), 1909, A., ii, 722.
- $\beta$ -Phenyl- $\alpha\alpha$ -dimethyl- $\beta$ -allyl methyl ketone and its semicarbazone (COURTOT), 1906, A., i, 556.
- Phenyl-*p*-dimethylaminobenzylidene-acetonitrile, *p*-nitro- (SACHS and LEWIN), 1903, A., i, 39.
- Phenyl  $\alpha$ -dimethylaminobenzyl ketone and its salts (RAE and RIEPER), 1912, A., i, 718.
- Phenyldimethylaminodimethylcarbinol (RIEDEL), 1906, A., i, 632.
- Phenyldimethylaminoethylcarbinol and its additive salts and benzoyl derivative (FOURNEAU), 1905, A., i, 57.
- Phenyl dimethylaminomethyl ketone, *p*-hydroxy-, and its hydriodide (VOSWINCKEL), 1912, A., i, 443.
- $\delta$ -Phenyl- $\alpha$ -*p*-dimethylaminophenyl- $\Delta\alpha\gamma$ -butadiene (SACHS and WEIGERT), 1907, A., i, 1048.
- Phenyldimethylaminophenylmethane,  $\alpha$ -dichloro-, and its hydrochloride (STAUDINGER), 1909, A., i, 907.
- $\gamma$ -Phenyl- $\alpha$ -*p*-dimethylaminophenyl- $\Delta\alpha$ -propen- $\gamma$ -ol (SACHS and WEIGERT), 1907, A., i, 1048.
- $\beta$ -Phenyl- $\beta$ -*p*-dimethylaminophenylpropionic acid and its salts (FOSSE), 1907, A., i, 136.
- 3-Phenyl-5-*p*-dimethylaminostyrylcyclohexan-1-one-2-carboxylic acid, ethyl ester (BORSCHÉ), 1910, A., i, 684.
- 3-Phenyl-5-*p*-dimethylaminostyryl- $\Delta^5$ -cyclohexen-1-one-2-carboxylic acid, benzoyl derivative of its ethyl ester (BORSCHÉ), 1910, A., i, 684.
- Phenyl-6-dimethylamino-*m*-tolylmethane, 4'-amino- (v. BRAUN and KRUßBER), 1912, A., i, 969.
- Phenyldimethylammonium iodide, action of chlorine on (WERNER), 1906, T., 1638; P., 258.
- platinibromide (GUTHIER, BAURIEDEL, and OBERMAIER), 1911, A., i, 33.
- Phenyldimethylarsine di- and tetrabromides (WINMILL), 1912, T., 723.
- 2-Phenyl-1:3-dimethylbenziminazole, 6-chloro- and 6- and *o*-, *m*-, and *p*-nitro-, salts, and carbinols of (FISCHER and LIMMER), 1906, A., i, 897.
- 1-Phenyl-2:3-dimethylbenziminazolium chloride, 4:7-dinitro-6-hydroxy-1-*p*-chloro- (MELDOLA and KUNTZEN), 1911, T., 2040.
- hydroxide, 4:7-dinitro-6-hydroxy-, and its salts (MELDOLA and KUNTZEN), 1911, T., 1290.
- 2-Phenyl-1:3-dimethylbenziminazolium iodide and -2:3-dihydrobenziminazol-2-ol and its salts (FISCHER and RÖMER), 1906, A., i, 540.
- 1-Phenyl-2:3-dimethylbenziminazolol, 5-nitro- (v. WALTHER and KESSLER), 1906, A., i, 898.
- 4:7-dinitro-6-hydroxy- (MELDOLA and KUNTZEN), 1911, T., 1295.
- 4:7-dinitro-6-hydroxy-1-*p*-chloro- (MELDOLA and KUNTZEN), 1911, T., 2040.
- 1-Phenyl-2:3-dimethyl-6-benziminazol-one, 4:7-dinitro-1-*p*-chloro- (MELDOLA and KUNTZEN), 1911, T., 2040.

- 4-Phenyl-2:6-dimethyl-1:3:7:9-benzotetrazole (BÜLOW and HAAS), 1910, A., i, 203.
- 1-Phenyl-3:6-dimethyl-1:2:7-benzotriazole, 4-hydroxy-, and its salts (BÜLOW and HAAS), 1911, A., i, 88.
- 3-Phenyl-1-*op*-dimethylbenzyl-2-methyl-5-pyrazolone (CURTIUS and MAYER), 1912, A., i, 309.
- 3-Phenyl-1-*op*-dimethylbenzyl-2-methyl-6-pyridazinone (CURTIUS and MAYER), 1912, A., i, 309.
- 3-Phenyl-1-*op*-dimethylbenzyl-5-pyrazolone, and 4-nitro-, and 4-oximino-, and their silver salts (CURTIUS and MAYER), 1912, A., i, 309.
- Phenyl-2:4-dimethylbenzylthiosemicarbazide (CURTIUS and MAYER), 1912, A., i, 308.
- Phenyldimethylbetaine and its additive derivatives (WILLSTÄTTER and KAHN), 1904, A., i, 236.
- Phenyldimethyl-*m*-biscyclohexenone and its dioxime- and phenylhydrazone (KNOEVENAGEL), 1903, A., i, 637.
- 1-Phenyl-2:4-dimethyl-3-bromomethyl-5-pyrazolone (FARBWERKE FORM. MEISTER, LUCIUS, & BRÜNING), 1909, A., i, 257.
- 1-Phenyl-2:4-dimethyl-3-bromomethyl-5-pyrazolone, *p*-nitro- (FARBWERKE FORM. MEISTER, LUCIUS, & BRÜNING), 1910, A., i, 78.
- 1-Phenyl-2:4-dimethyl-5-bromomethyl-3-pyrazolone (FARBWERKE FORM. MEISTER, LUCIUS, & BRÜNING), 1909, A., i, 523.
- $\alpha$ -Phenyl- $\beta$ - $\gamma$ -dimethylbutadiene (KOLLER), 1907, A., i, 140.
- $\gamma$ -Phenyl- $\beta\beta$ -dimethylbutan- $\gamma$ -ol (RAMART-LUCAS), 1910, A., i, 378.
- $\beta$ -Phenyl- $\alpha\alpha$ -dimethyl- $\Delta\beta$ -butenoic acid (*phenyldimethylringlactonic acid*), and its derivatives (COURTOT), 1906, A., i, 555.
- $\gamma$ -Phenyl- $\beta\beta$ -dimethyl- $\Delta\gamma$ -butenol and its acetate (COURTOT), 1906, A., i, 556.
- Phenyldimethylbutenolide (BLAISE and COURTOT), 1906, A., i, 928.
- Phenyldimethyl-*n*-butylammonium iodide, *p*-bromo- (EVERATT), 1908, T., 1233.
- 1-Phenyl-4:4-dimethyl-3-*tert.*-butyl-5-pyrazolone (WAHLBERG), 1911, A., i, 708.
- $\beta$ -Phenyl- $\alpha\alpha$ -dimethylbutyric acid ( $\beta$ -phenyl- $\beta$ -methylpicric acid),  $\beta$ - $\gamma$ -dibromo-, and  $\beta$ -hydroxy-, ethyl ester (COURTOT), 1906, A., i, 555.
- $\beta$ -Phenyl- $\alpha\alpha$ -dimethylbutyrolactone (BLAISE and COURTOT), 1905, A., i, 563.
- $\beta$ -Phenyl- $\alpha\alpha$ -dimethylbutyrolactone,  $\beta$ -bromo- and  $\gamma$ -hydroxy- (BLAISE and COURTOT), 1906, A., i, 928.
- $\beta$ -hydroxy- (COURTOT), 1906, A., i, 927.
- Phenyldimethylcarbinol (MATSUBARA and PERKIN), 1905, T., 671.
- Phenyldimethylcarbinol, amino- (RIEDEL), 1908, A., i, 251.
- 1-Phenyl-2:4-dimethyl-3-chloromethyl-5-pyrazolone (FARBWERKE FORM. MEISTER, LUCIUS, & BRÜNING), 1909, A., i, 257.
- Phenyldimethylecyanomethylammonium iodide (v. BRAUN), 1908, A., i, 628.
- 9-Phenyl-2':10-dimethyldihydronaphth-acridine (FREUND and BODE), 1909, A., i, 515.
- 2-Phenyl-4:6- and -5:6-dimethyl-1:2-dihydropyridone, 3-hydroxy- (THOLE and THORPE), 1911, T., 2237.
- 3-Phenyl-2:6-dimethyl-3:4-dihydro-4-quinazolone, 7-amino-, acetyl derivative (BOGERT and KROFF), 1909, A., i, 843.
- 2-Phenyl-1:2-dimethyldihydroquinoline and its picrate (FREUND and RICHARD), 1909, A., i, 418.
- 1-Phenyl-4:5-dimethyldihydrouracil, 4-bromo-5-hydroxy- (BREMER), 1911, A., i, 161.
- Phenyldimethylethylammonium salts (WILLCOX), 1905, A., i, 45.
- iodide, compound of thiocarbamide and (ATKINS and WERNER), 1912, T., 1990.
- 1-Phenyl-3:6-dimethyl-4-ethyl-1:2:7-benzotriazole, 4-hydroxy- (BÜLOW and HAAS), 1911, A., i, 89.
- Phenyldimethylethylene and its dibromide (BLAISE and COURTOT), 1906, A., i, 794.
- Phenyldimethylethyl-1-ethyl- $\psi$ -dithiobiurets (BILLETTER and RIVIER), 1905, A., i, 50.
- Phenyldi-2-methyl-1-ethylindylmethane,  $\alpha$ -hydroxy- and  $\alpha$ -nitro- (FREUND and LEBACH), 1905, A., i, 665.
- 1-Phenyl-2:4-dimethyl-4-ethyl-3:5-pyrazolidone (*methylethylmethoxyantipyrine*) (MICHAELIS and SCHENK), 1909, A., i, 59.
- 1-Phenyl-2:4-dimethyl-3-ethylpyrazolone (EMMERLING and KRISTELLER), 1906, A., i, 623.
- 1-Phenyl-2:3-dimethyl-4-ethyl-5-pyrazolone, *p*-nitro- (FARBWERKE FORM. MEISTER, LUCIUS, & BRÜNING), 1910, A., i, 340.
- Phenyldimethylethylsilicane (BYGDES), 1912, A., i, 342.

- 1-Phenyl-3:4-dimethyl-5-ethyl-thiol- and -sulphone-pyrazoles (MICHAELIS, BESSON, MOELLER, and KOBER), 1904, A., i, 784.
- $\delta$ -Phenyl- $\alpha\alpha$ -dimethyl-fulgenic acid and -fulgide (STOBBE and LENZNER), 1906, A., i, 22.
- o*-, *m*-, and *p*-nitro-, and their salts (STOBBE and LEUNER), 1906, A., i, 183.
- $\alpha$ -Phenyl- $\delta\delta$ -dimethylfulgide, *p*-chloro- (STOBBE and WAHL), 1911, A., i, 375.
- Phenyl-1:3-dimethylglyoxalone-4:5-glycol, 4:5-dibromo- (BILTZ and BEHRENS), 1910, A., i, 589.
- $\gamma$ -Phenyl- $\zeta\zeta$ -dimethylheptan- $\epsilon$ -one and its oximes (KÖHLER), 1907, A., i, 1052.
- $\delta$ -Phenyl- $\beta\zeta$ -dimethyl- $\Delta\gamma$ -heptene and its bromine compound (SCHORIGIN), 1907, A., i, 754.
- 4-Phenyl-1:1-dimethylcyclohexane-2:6-dione and its dioxime and diphenyl-hydrazone and its 3:5-dicarboxylic acid, ethyl ester, and its reactions (DIECKMANN and KRON), 1908, A., i, 388.
- 2-Phenyl-1:1-dimethylcyclohexane-3:5-dione (BORSCHKE), 1910, A., i, 36.
- Phenyldimethylcyclohexanol (KÖHLER), 1907, A., i, 536.
- $\gamma$ -Phenyl- $\delta\delta$ -dimethyl- $\Delta\beta$ -hexene (RAMART-LUCAS), 1911, A., i, 636.
- 4-Phenyl-1:3-dimethylhydantoin (GABRIEL), 1907, A., i, 91.
- 3-Phenyl-5:5-dimethylhydantoin (BAILEY and RANDOLPH), 1908, A., i, 742.
- and 1-amino-, and its benzylidene derivative (BAILEY and BROOKS), 1908, A., i, 842.
- Phenyldimethylhydrazineiodide (ALLAIN LECANU), 1905, A., i, 376.
- $\alpha$ -Phenyl- $\alpha\beta$ -dimethylhydrocinnamic acid. See  $\alpha\beta$ -Diphenyl- $\alpha$ -methylbutyric acid.
- 1-Phenyl-2:4-dimethyl-3-hydroxymethyl-5-pyrazolone, *p*-amino-, and *p*-nitro-, and its acetate (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1910, A., i, 78.
- 1-Phenyl-2:4-dimethyl-3-hydroxymethylpyrazolonedio- $\omega$ -acetic acid, *p*-amino- (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1910, A., i, 340.
- 1-Phenyl-2:3-dimethyliminopyrazole. See Iminopyrine.
- s*-*C*-Phenyl-di-*C*-methyliminotriacetic acid (STÄDNIKOFF), 1909, A., i, 771.
- Phenyldi-2-methyl-indyl- and -indolidene-methanes, chloro-, hydroxy-, and nitro-derivatives (FREUND and LEBACH), 1905, A., i, 655.
- 1-Phenyl 3:4-dimethyl-5-methylsulphonopyrazole, bromo- (MICHAELIS, BESSON, MOELLER, and KOBER), 1904, A., i, 784.
- Phenyl-*B*-dimethylnaphthasafranine, *p*-amino- (FISCHER and HEPP), 1903, A., i, 60.
- 6-Phenyl-3:4-dimethyl-1:2:5-oxadiazine, 4-hydroxy-, and its derivatives (DIELS and VAN DER LEEDEN), 1905, A., i, 947.
- Phenyldimethylisooxazolone (HALLER and BAUER), 1911, A., i, 568.
- 1-Phenyl-2:5-dimethyl-2:3-oxypyrazole (3-antipyrine) and its  $\psi$ -methiodide (MICHAELIS and MEYER), 1905, A., i, 378.
- 1-Phenyl-2:5-dimethyl-2:3-oxypyrazole, 1-*m*-amino-, 1-*p*-diamino-, *p*-bromo-, 4':4-dibromo-, 4-bromo-*m*-nitro-, *m*-nitro-, 1-*p*-dinitro-, 4-nitro-*p*-bromo-, and their derivatives (MICHAELIS and STIEGLER), 1908, A., i, 212.
- 5-chloro- (MICHAELIS and SCHENK), 1909, A., i, 58.
- $\beta$ -Phenyl- $\beta\delta$ -dimethylpentane (SCHREINER), 1910, A., i, 661.
- $\gamma$ -Phenyl- $\beta\delta$ -dimethylpentan- $\gamma$ -ol (RAMART-LUCAS), 1911, A., i, 636.
- $\delta$ -Phenyl- $\alpha\alpha$ -dimethyl- $\Delta\beta$ -pentenoic acid ( $\gamma$ -benzyl- $\alpha\alpha$ -dimethylvinylacetic acid) and its derivatives (BLAISE and COURTOT), 1906, A., i, 554.
- Phenyl- $\delta\delta$ -dimethylpentylthiocarbamide (CHONIN), 1909, A., i, 450.
- 5-Phenyl-2:8-dimethylphenazonium, and 3-amino-, and 3:7-diamino-, and their salts (ORLOFF), 1911, A., i, 89.
- 6-Phenyl-2:2-dimethylpiperidone (*benzylidenediacetoneamine*), 1-nitroso- (KÖHN and WENZEL), 1907, A., i, 238.
- $\alpha$  Phenyl- $\beta\beta$ -dimethylpropane,  $\alpha$ -bromo- (LEPIN), 1912, A., i, 957.
- 1-Phenyl-2:2-dimethylcyclopropane (RAMART-LUCAS), 1911, A., i, 636.
- $\gamma$ -Phenyl- $\beta\beta$ -dimethylpropane- $\alpha\gamma$ -diol (FRANKE and KÖHN), 1907, A., i, 171.
- $\beta$ -Phenyl- $\alpha\alpha$ -dimethylpropionic acid and its amide, and nitro-derivative (HALLER and BAUER), 1909, A., i, 655.
- $\beta$ -Phenyl- $\alpha\alpha$ -dimethylpropionyl chloride (HALLER and BAUER), 1910, A., i, 490.
- $\beta$ -Phenyl- $\alpha\alpha$ -dimethylpropyl alcohol (LEPIN), 1912, A., i, 958.
- Phenyl- $\alpha\alpha$ - and - $\alpha\beta$ -dimethylpropylsulphones (POSNER and TSCHARNO), 1905, A., i, 279.



- 3-Phenyl-1:2-dimethylpyrazole**, 2:5-thio- (*isothiopyrine*) and its derivatives (MICHAELIS and DORN), 1907, A., i, 249.
- 1-Phenyl-2:5-dimethylpyrazole**, 1-*m*-nitro-2:3-thio- (MICHAELIS and STIEGLER), 1908, A., i, 213.
- 2:3-thio- (3-*thiopyrine*) and its salts and alkyl haloids (MICHAELIS and HAHN), 1905, A., i, 378.
- 1-Phenyl-3:4-dimethylpyrazole** (MICHAELIS, BESSON, MOELLER, and KOBER), 1904, A., i, 783.
- and its salts (STOEMER and MARTINSEN), 1907, A., i, 446.
- 1-Phenyl-3:5-dimethylpyrazole**, *p*-bromo-4-nitroso- and 4-nitroso- (SACHS and ALSLEBEN), 1907, A., i, 357.
- 4-nitro- and 4-nitroso- (WOLFF, BOCK, \* LORENTZ, and TRAPPE), 1903, A., i, 210.
- 1-Phenyl-4:5-dimethylpyrazole**, 3-chloro-, and 3-iodo-, methiodide of (MICHAELIS and DREWS), 1907, A., i, 157.
- 1-Phenyl-3:5-dimethylpyrazoleimino-3'-phenylisooxazolone** (MEYER), 1911, A., i, 687.
- 1-Phenyl-3:3-dimethyl-5-pyrazolidone** (PRENTICE), 1904, T., 1667; P., 220.
- 1-Phenyl-4:4-dimethyl-3:5-pyrazolidone** (PERKIN), 1903, T., 1225.
- 3-benzoyl and 3-benzenesulphonyl derivatives (MICHAELIS and SCHENK), 1909, A., i, 58.
- 1-Phenyl-2:3-dimethylpyrazolone**, 5-imino-. See Iminopyrine.
- 2:5-thio- (*thiopyrine*) and its additive salts and trioxide (MICHAELIS), 1904, A., i, 780.
- benzeneazo-derivatives of (MICHAELIS and SCHLECHT), 1906, A., i, 614.
- o*-, -*m*-, and -*p*-amino-, -*p*-4-di-amino-, -*o*-, -*m*-, and -*p*-nitro-, -*p*-4-dinitro-, and their salts and derivatives (MICHAELIS, GRAFF, GESING, and BOIE), 1911, A., i, 234.
- 1-Phenyl-2:5-dimethylpyrazolone**, 3-imino-, and its carbonate and picrate (STOLZ), 1904, A., i, 114.
- 1-Phenyl-4:5-dimethyl-3-pyrazolone** and its benzenesulphonyl derivative (MICHAELIS and DREWS), 1907, A., i, 157.
- 1-Phenyl-2:3-dimethyl-5-pyrazolone**. See Antipyrene.
- 1-Phenyl-2:4-dimethyl-5-pyrazolone** (STOLZ), 1905, A., i, 942.
- 1-Phenyl-3:4-dimethyl-5-pyrazolone**, 1-*p*-amino-, and its acetyl derivative (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1912, A., i, 136.
- 1-Phenyl-4:4-dimethyl-5-pyrazolone** (BLAISE and MARCILLY), 1904, A., i, 286.
- 1-Phenyl-4:4-dimethyl-5-pyrazolone**, 3-hydroxy- (MICHAELIS and SCHENK), 1907, A., i, 966.
- 1-Phenyl-2:3-dimethyl-5-pyrazolones**, soluble compounds from (RIEDEL), 1910, A., i, 433.
- Phenyldimethylpyrazoloneazophenylisooxazolone** (MEYER), 1911, A., i, 341.
- 1-Phenyl-4:4-dimethylpyrazolone-3-carboxylic acid**, ethyl ester (RASSOW and BAUER), 1909, A., i, 632.
- 1-Phenyl-2:3-dimethyl-5-pyrazolone-diacetic and -dipropionic acids**, amino- (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1903, A., i, 866.
- $\alpha$ -Phenyl- $\delta$ -(4:6-dimethyl-2-pyridyl)-butadiene** and its aurichloride (PROSKE), 1909, A., i, 413.
- 4-Phenyl-2:6-dimethylpyroxonium salts** (v. BAEYER and PICCARD), 1911, A., i, 901.
- $\beta$ -Phenyl- $\alpha\alpha$ -dimethylsuccinic acid**, hemialdehyde oxime and semicarbazone, and hemialdehydeazine of (BLAISE and COURTOT), 1906, A., i, 928.
- Phenyldimethylsulphine platinichloride** (KEHRMANN and DUTTENHÖFER), 1906, A., i, 949.
- 3-Phenyl-2:5-dimethyltetrahydrofuran**, 3-hydroxy- (DUPONT), 1912, A., i, 291.
- 4-Phenyl-3:6-dimethyltetrahydro-1:3-oxazine** and its aurichloride (KOHN), 1907, A., i, 680.
- 3-Phenyldimethyl-2-thiohydantoins**, 1-amino-, and their derivatives (BAILEY, ACREE, and MILLER), 1904, A., i, 826.
- 1-Phenyl-3:5-dimethyl-3-thiopyrazolone**, *p*-bromo- (MICHAELIS and STIEGLER), 1908, A., i, 212.
- Phenyldimethylthiosemicarbazide** (KNORR and KÜHLER), 1906, A., i, 817.
- 1-Phenyl-3:5-dimethyl-1:2:4-triazole** and its salts (PELLIZZARI), 1911, A., i, 1036.
- 1-Phenyl-3:4-dimethyl-1:2:5-triazole**, amino- (v. PECHMANN and BAUER), 1909, A., i, 271.
- nitro- (v. PECHMANN and BAUER), 1909, A., i, 271.
- $\delta$ -Phenyl- $\alpha\alpha$ -dimethyl- $\gamma$ -valerolactone**,  $\beta$ -hydroxy- (BLAISE and COURTOT), 1906, A., i, 554.

- $\alpha$ -Phenyl- $\beta\beta$ -dimethylvinyl benzoate (HALLER and BAUER), 1911, A., i, 727.
- 9-Phenyl-2:7- and -3:6-dimethylxanthohydrols and their salts (KEHRMANN and KNOP), 1912, A., i, 43.
- 8-Phenyl-1:3-dimethylxanthine (TRAUBE and NITZACK), 1906, A., i, 215.
- 9-Phenyl-3:6-dimethylxanthonium-*o*-carboxylic acid, methyl and ethyl esters, salts of (KEHRMANN and KNOP), 1912, A., i, 43.
- 7-Phenyl- $\begin{array}{c} \alpha-N-\alpha \\ | \\ \beta-CH-\beta \end{array}$ -dinaphthacridine, *m*-nitro-, and its additive salts (SENIER and AUSTIN), 1907, T., 1238; P., 186.
- Phenyldinaphthacridines and their additive salts (SENIER and AUSTIN), 1906, T., 1395; P., 241.
- Phenyldinaphthaquino-xanthenol chloride, hydrochloride (GOMBERG and CONE), 1910, A., i, 57.
- Phenyldinaphthaxanthen, amino- (ROBYN), 1905, A., i, 608.
- p*-hydroxy-, and its acyl derivatives (ROGOFF), 1905, A., i, 884.
- m*-nitro-, compound of, with benzene (WERNER and SUMMERER), 1906, A., i, 437.
- Phenyldinaphthaxanthenol and its salts (GOMBERG and CONE), 1910, A., i, 57.
- Phenyldinaphthylmethane series, colouring matters of the (NOELTING), 1904, A., i, 621.
- Phenyldioxatriazine and its reactions (JOVITSCHITSCH), 1907, A., i, 98.
- 3-Phenyldioxindole, and *p*-bromo- (KOHN), 1910, A., i, 697.
- 3-Phenyldioxindole, 5-bromo- (KOHN and OSTERSETZER), 1912, A., i, 51.
- Phenyldiphenylenecarbinol (ULLMANN and V. WURSTEMBERGER), 1904, A., i, 154.
- $\alpha$ -Phenyl- $\delta$ -diphenylenefulgenic acid (STOBEE, BADENHAUSEN, HENNICKE, and WAHL), 1911, A., i, 381.
- $\alpha$ -Phenyl- $\delta$ -diphenylenefulgide (STOBEE, BADENHAUSEN, HENNICKE, and WAHL), 1911, A., i, 381.
- Phenyldiphenylenemethane. See Phenylfluorene.
- Phenyldiphenylenemethyl peroxide. See 9-Phenylfluoryl peroxide.
- 1-Phenyl-2:3-*o*-diphenylenecyclopentanone and its phenylhydrazine (LANG), 1905, A., i, 292.
- s*-Phenyldiphenylhydrazine, transformation of (DZIURZYNSKI), 1908, A., i, 696.
- $\alpha$ -Phenyl- $\beta$ -*o*-diphenylmethanethiocarbamide (CARRÉ), 1909, A., i, 122.
- 2-Phenyl-5-diphenylmethylbenzimidazole and its additive salts (THOMAE), 1905, A., i, 587.
- $\beta$ -Phenyl- $\beta$ -diphenylmethylhydroxylamine (ANGELI, ALESSANDRI, and AIAZZI-MANCINI), 1911, A., i, 544.
- Phenyl diphenylstyryl ketone (*diphenylbenzylidenecetophenone*) (KÖHLER), 1907, A., i, 1054.
- Phenyldipropylcarbinol (AMOUROUX and MURAT), 1912, A., i, 415.
- and its acetyl derivative (MURAT and AMOUROUX), 1912, A., i, 528.
- Phenyldipropylhydrazine bromide and iodide (ALLAIN LECANU), 1905, A., i, 375.
- 1-Phenyl-4:4-dipropyl-5-pyrazolone, 3-hydroxy-, and its dipropylmalonic phenylhydrazide (CONRAD and ZART), 1906, A., i, 609.
- Phenyl-1:3-dipyridinium chloride, 4:6-dinitro-, action of hydrogen sulphide on (ZINCKE and WEISSPENNIG), 1912, A., i, 302.
- 1-Phenyl-3:5-dipyrrolylpyrazolone (ODDO and DAINOTTI), 1912, A., i, 721.
- Phenyldithiocarbamic acid, methyl, ethyl, and propyl esters (ROSCHDESTVENSKY), 1910, A., i, 107.
- Phenyl  $\beta\beta$ -dithiolvinyl ketone, salts and derivatives of (KELBER and SCHWARZ), 1912, A., i, 206.
- Phenyldi-*p*-tolylacetoneitrile (VORLÄNDER, FRIEDBERG, VAN DER MERVE, ROSENTHAL, HUTH, and V. BODECKER), 1911, A., i, 867.
- Phenyldi-*p*-tolyl-carbinol and -methane (KLIEGL), 1905, A., i, 186.
- Phenyldi-*p*-tolylchloromethane and its carbinol and peroxide (GOMBERG and LYNN), 1904, A., i, 489.
- Phenyldi-*o*-tolylmethane, *p*-diamino-, and its di- and tetra-acetyl derivatives (VONGERICHTEN and WEILINGER), 1904, A., i, 687.
- $\beta$ -Phenyl- $\alpha$ -di-*p*-tolylpropionic acid, and its silver salt and methyl ester (BISTRZYCKI and MAURON), 1910, A., i, 845.
- 1-Phenyl-3:5-ditolyltriazoles, bromo- and chloro-derivatives, synthesis of (V. WALTHER and KRUMBIEGEL), 1903, A., i, 661.
- $\alpha$ -Phenyl- $\beta\beta$ -di-*o*-xylylpropionic acid, and its methyl ester (BISTRZYCKI and MAURON), 1910, A., i, 845.
- Phenylene benzene-*m*-dithiolsulphonate (TRÖGER and MEINE), 1904, A., i, 30.
- 1:4-dichloromethylsulphoxide (ZINCKE and FROHNEBERG), 1909, A., i, 644.

**Phenylene** 1:4-dimethyldisulphoxide (ZINCKE and FROHNEBERG), 1909, A., i, 643.

*o*-Phenyleneacetic-glycollic acid and its ethyl ester (CZAPLICKI, v. KOSTANECKI, and LAMPE), 1909, A., i, 235.

**Phenyleneacetic-malonic acid**, chloro-*trinitro*-, ethyl ester (JACKSON and SMITH), 1904, A., i, 803.

*o*-Phenyleneacetic-mandelic acid and its ethyl hydrogen, and diethyl esters (CZAPLICKI, v. KOSTANECKI, and LAMPE), 1909, A., i, 235.

*p*-Phenyleneacetic-oxalacetic acid. See  $\omega$ -Carboxy-*p*-tolylloxalacetic acid.

*o*-Phenyleneacetic-propionic acid (MOORE and THORPE), 1908, T., 182; P., 13.

*p*-Phenyleneacetic-pyruvic acid. See  $\omega$ -Carboxy-*p*-tolylpyruvic acid.

*m*-Phenylenebidiguanide and its picrate (COHN), 1911, A., i, 929.

*m*-Phenylenebisacetonylsulphone and its dioxime and phenylhydrazones (TRÖGER and MEINE), 1904, A., i, 30.

*m*-Phenylenebisalkylsulphones and their haloid derivatives (TRÖGER and MEINE), 1904, A., i, 30.

**Phenylenebisaminoacetamides**, *m*- and *p*- (LUMIÈRE and PERKIN), 1903, A., i, 832.

*p*-Phenylenebisaminoanthraquinone (ULLMANN and FODOR), 1911, A., i, 467.

preparation of (FARBENFABRIKEN VORM. F. BAYER & Co.), 1910, A., i, 281.

derivatives of (LAUBÉ and KÖNIG), 1909, A., i, 54.

*p*-Phenylenebis-1- and -2-aminoanthraquinones (LAUBÉ), 1907, A., i, 941.

*p*-Phenylenebis-*o*-aminobenzoic acid (GOLDBERG and ULLMANN), 1906, A., i, 954.

*p*-Phenylenebis-1-amino-2-hydroxy- and -2-methyl-anthraquinones (LAUBÉ and KÖNIG), 1909, A., i, 55.

*o*-Phenylenebis-1-amino-2-methylantraquinone, *p*-nitro- (LAUBÉ and KÖNIG), 1909, A., i, 55.

**Phenylenebisdiacetonitriles**, *o*-, *m*-, and *p*- (V. MEYER and SCHUMACHER), 1908, A., i, 910.

*p*-Phenylenebis-1:3-diphenyl-4:5-dihydropyrazole (v. LENDENFELD), 1907, A., i, 221.

*p*-Phenylenebis-2:3:7-*tri*hydroxyfluorone and its sulphate and acetyl derivative (HEINTSCHEL), 1905, A., i, 809.

*p*-Phenylenebisiminocamphor (FORSTER and THORNLEY), 1909, T., 955.

*m*-Phenylenebis-2:5-imino-1-phenyl-2:3-dimethylpyrazole and its salts (MICHAELIS, WUHL, and DOEFMANN), 1911, A., i, 1042.

3:3'-Phenylenebis-2-methyl-3:4-dihydro-4-quinazolone (BOGERT, GORTNER, and AMEND), 1911, A., i, 581.

*p*-Phenylenebismethylsulphone (TRÖGER and MEINE), 1904, A., i, 31.

3:3'-*m*-Phenylenebis-2-*m*-nitrophenyl-3:4-dihydro-4-quinazolone (BOGERT, GORTNER, and AMEND), 1911, A., i, 582.

*m*-Phenylenebis-sulphone-acetic, -propionic, and -butyric acids and their esters (TRÖGER and MEINE), 1904, A., i, 30.

*o*-Phenylenecarbamide, *p*-chloro- (FISCHER and LIMMER), 1906, A., i, 895.

*m*-Phenylenecarbamide, preparation of (KALLE & Co.), 1904, A., i, 346.

*o*-Phenylenediamic acid and its amide and nitrile, preparation of (MOORE and THORPE), 1908, T., 175.

*o*-Phenylenediamine, oxidation of (ULLMANN and MAUTHNER), 1903, A., i, 199.

oxidation of, and its compound with silver nitrate (WILLSTÄTTER and PFANNENSTIEL), 1905, A., i, 723.

substituted, oxidation of (ULLMANN and MAUTHNER), 1904, A., i, 192; (FISCHER), 1904, A., i, 349.

condensation of, with phthalonic acid (MANUELLI and SILVESTRI), 1904, A., i, 784.

condensation of, with phthalonimide (GABRIEL), 1905, A., i, 97.

*o*-Phenylenediamine, 4:6-dibromo-, and its salts and diacetyl derivative (JACKSON and RUSSE), 1906, A., i, 307.

3:4:5-*tri*bromo- (JACKSON and FISKE), 1903, A., i, 690.

4-chloro-, and its *N*-diacetyl derivatives (ULLMANN and MAUTHNER), 1904, A., i, 192.

*p*-chloro-, dibenzoyl derivative of, and *p*-chloronitro-, diacetyl and dibenzoyl derivatives of (FISCHER and LIMMER), 1906, A., i, 895.

*p*-dichloro- (NOELTING and KOPP), 1905, A., i, 873.

2:4:5-*tri*chloro-, acetyl, formyl, and benzoyl derivatives of, and *tetra*-chloro-, acetyl derivative of (BADISCHE ANILIN- & SODA-FABRIK), 1907, A., i, 444.

3-nitro- (BORSCH and RANTSCHKEFF), 1911, A., i, 330.



- m*-Phenylenediamine and nitroso-, and their condensation products with benzaldehyde, and 1-nitro- (BERTELS), 1904, A., i, 620.  
condensation of, with methyldihydroresorcinol (HAAS), 1906, T., 577.  
black sulphur dye from (KALLE & Co.), 1904, A., i, 607.  
monoacyl derivatives, action of nitrous acid on (MORGAN and MICKLETHWAIT), 1906, T., 1292.  
symmetrically disubstituted, azo-derivatives of (MORGAN and WOOTTON), 1905, T., 937; P., 179.  
reactions of, with gold salts (SIEMSEN), 1912, A., ii, 1001.
- m*-Phenylenediamine, 4-amino-, *N*-(4)-acetyl derivative of (FARBEN-FABRIKEN VORM. F. BAYER & Co.), 1907, A., i, 977.  
action of carbonyl chloride on (CASSELLA & Co.), 1906, A., i, 712.
- 1-bromo-2:4:6-*tri*-iodo-, and its hydrochloride (JACKSON and BIGELOW), 1912, A., i, 102.
- 6-bromo-4-nitro-, and 6-chloro-4-nitro-, and their diacetyl derivatives, and 2:6-*di*bromo-4-nitro-, and *di*-iodo- (MORGAN and WOOTTON), 1905, T., 933; P., 179.
- 2:4-*di*bromo-6-nitro- (JACKSON and FISKE), 1903, A., i, 690.
- 2-chloro-, *di*benzoyl derivative (BORSCHKE and RANTSCHKEFF), 1911, A., i, 330.
- N*-cyano-, acetyl derivative (PIERRON), 1908, A., i, 926.
- 4-nitro- (AKTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION), 1903, A., i, 54.
- 5-nitro-, and its diacetyl derivative (FLÜRSCHHEIM), 1905, A., i, 615.
- 2:4-*di*nitro- (KÖRNER and CONTARDI), 1908, A., i, 524.
- 4:6-*di*nitro- (REITZENSTEIN and ROTHSCCHILD), 1906, A., i, 455; (ZINCKE and WEISSPENNING), 1912, A., i, 302.
- 2:4:6-*tri*nitro- (BLANKSMA), 1903, A., i, 158.  
diacetyl derivative (BLANKSMA), 1909, A., i, 780.
- p*-Phenylenediamine, preparation of (AKTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION), 1909, A., i, 256.  
oxidation of (BAMBERGER and HÜBNER), 1904, A., i, 118; (ERDMANN), 1904, A., i, 773, 935.  
new base from (PAUL), 1904, A., i, 530.
- p*-Phenylenediamine, condensation of, with aldehydes and ketones (ROTH-ENFUSSER), 1908, A., i, 52.  
sulphurous acid compound of (SOCIÉTÉ ANONYME DES PLAQUES ET PAPIERS PHOTOGRAPHIQUES, A. LUMIÈRE ET SES FILS), 1908, A., i, 977.  
monoacyl derivatives, action of nitrous acid on (MORGAN and MICKLETHWAIT), 1905, T., 930; P., 179.  
benzoyl derivative, diazo-derivatives of (MORGAN and WOOTTON), 1907, T., 1315.  
diacylated, with different acid radicles, monosubstitution products of (CHAZEL), 1907, A., i, 793.  
nitrates (SCHALL), 1908, A., i, 289.  
zincichloride (REDELLEN), 1910, A., i, 747.
- p*-Phenylenediamine, 2:5-*di*bromo-, and its hydrochloride (JACKSON and CALHANE), 1903, A., i, 159.
- 2:6-*di*bromo-, preparation of (HEWITT and WALKER), 1907, T., 1141; P., 161.
- 2-chloro-, 1-acetyl derivative (CAIN), 1909, T., 716; P., 123.
- dichloro*-, *N*-diacetyl derivative of (NOELTING and KOPP), 1905, A., i, 873.
- hydroxy-, and its unsymmetrical dialkyl derivatives, oxidation of (KEHRMANN and POPLAWSKI), 1909, A., i, 516.
- 3-nitro-1:4-*di*-*p*-nitro-, and 2:3-*di*-nitro-1:4-*di*-*p*-nitro-, benzoyl derivatives (KYM and KOWARSKI), 1911, A., i, 1044.
- Phenylenediamines, action of pyrocinchonic anhydride on (ROSSI), 1904, A., i, 1046.
- diazo-derivatives of (VIGNON), 1906, A., i, 223.
- o*-, *m*-, and *p*-, interaction of, with malonic, succinic, and isosuccinic acids (MEYER), 1903, A., i, 442.
- interaction of, with phthalic and succinic anhydrides (MEYER), 1903, A., i, 443.
- m*- and *p*-, condensation of, with dimethyldihydroresorcin and with chloroketodimethyltetrahydrobenzene (HAAS), 1906, T., 387; P., 63.
- p*-Phenylenediaminearsinic acid. See Phenylarsinic acid, 2:5-*di*amino-.
- p*-Phenylenediamine-*di*- and -*tetra*-thio-sulphonic acids and their reactions (GREEN and PERKIN), 1903, T., 1201; P., 206.

- m*-Phenylenediaminesulphonic acid, nitro-, azo-dyes from (BADISCHE ANILIN- & SODA-FABRIK), 1906, A., i, 322.
- p*-Phenylenediaminesulphonic acid, preparation of (AKTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION), 1909, A., i, 256, 257.
- 1:4-Phenylenediamine-2-thiolacetic acid, 5-chloro-, sodium salt (KALLE & Co.), 1909, A., i, 736.
- o*-, *m*-, and *p*-Phenylenediammonium platinibromide (GUTHRIE, BAURIEDEL, and OBERMAIER), 1911, A., i, 33.
- p*-Phenylenediamthranilic acid (ULLMANN and MAAG), 1906, A., i, 459.
- 1:2-Phenylenediazo-oxide, 4-chloro-5-nitro- (FARBENFABRIKEN VORM. F. BAYER & Co.), 1908, A., i, 230.
- m*-Phenylenedicyanamide (PIERON), 1908, A., i, 925.
- m*-Phenylene-*s*-diethyldiamine and -*s*-diethyldinitroamine, *tr*initro- (BLANKSMA), 1903, A., i, 158.
- m*-Phenylene-*as*-diethyldiamine, acetyl derivative (GRANDMOUGIN and LANG), 1909, A., i, 971.
- p*-Phenylenedi-*a*-ethyldiamine. See *p*-Diethylbenzene, *di-a*-amino-.
- p*-Phenylenediglycine and its amide and nitrile (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1904, A., i, 153.
- p*-Phenylenedimalonamic acid, ethyl ester (MEYER and V. LUTZAU), 1906, A., i, 765.
- Phenylenedimercury acetate, hydroxy-, estimation of mercury in (BRIEGER), 1912, A., ii, 206.
- m*-Phenylene-*N*-dimethylamine, 2:4:6-*tr*initro- (BLANKSMA), 1903, A., i, 158.
- 1:1'-*p*-Phenylene-2:2'-dimethylbisbenziminazole, 4:4':7:7'-*tetra*nitro-6:6'-*di*-hydroxy-, and its silver salt (MELDOLA and KUNTZEN), 1911, T., 40.
- o*-Phenylenedimethyldiamine, 4-bromo- (FISCHER and MOUSON), 1905, A., i, 246.
- 4-chloro-, and its oxidation (FISCHER), 1904, A., i, 349.
- p*-chloronitro-, and its salts (FISCHER and LIMMER), 1906, A., i, 896.
- 3-nitro- (BORSCHKE and RANTSCHKEFF), 1911, A., i, 330.
- m*-Phenylenedimethyldiamine (*m-amino-dimethylaniline*), condensation of, with aromatic aldehydes (MOORE), 1910, A., i, 280.
- acetyl derivative (GRANDMOUGIN and LANG), 1909, A., i, 972.
- m*-Phenylenedimethyldiamine, 2:4-*di*-nitro- (BLANKSMA), 1908, A., i, 158.
- 4:6-*d*initro-2-cyano- and 4:6-*ωω-tetra*-nitro-2-cyano- (BLANKSMA), 1908, A., i, 271.
- p*-Phenylenedimethyldiamine and its derivatives (WILLSTÄTTER and PFANNENSTIEL), 1905, A., i, 669.
- p*-Phenylene-*as*-dimethyldiamine, acetyl derivatives (AUWERS and WEHR), 1904, A., i, 998.
- p*-Phenylene-*as*-dimethyldiaminedi-thiosulphonic acid (GREEN and PERKIN), 1903, T., 1212.
- p*-Phenylene-*as*-dimethyldiaminethio-sulphonic acid, action of formaldehyde on (SCHMIDT), 1906, A., i, 711.
- m*-Phenylenedimethyldinitroamine, 4-bromo-2:6-*d*initro- (BLANKSMA), 1903, A., i, 333.
- Phenylene-1:4-dimethyldisulphone (ZINCKE and FROHNEBERG), 1909, A., i, 643.
- p*-Phenylenedi-5-methylpyrazole (BEREND and HERMS), 1906, A., i, 854.
- Phenylene-1:2-dioxydiacetic acid (*catecholbisoxa-acetic acid*) and chloride (BISCHOFF and FRÖHLICH), 1907, A., i, 697.
- 3:3'-*p*-Phenylenedi-1-phenylpyrazolone (BEREND and HERMS), 1906, A., i, 854.
- Phenylenedipthalimides, *o*- and *p*- (MEYER and JAEGER), 1906, A., i, 767.
- Phenylene-*o*-, *m*-, and *p*-dipyrocinchonimides (ROSSI), 1904, A., i, 1046.
- p*-Phenylenediquinoxanthanol bromide hydrobromide (CONE and WEST), 1911, A., i, 806.
- m*-Phenylenedisebacic acid, ethyl ester (MEYER and MAIER), 1906, A., i, 766.
- p*-Phenylenedisosuccinamic acid, ethyl ester (MEYER and JAEGER), 1906, A., i, 766.
- m*-Phenylenedisuccinamide (MEYER and V. LUTZAU), 1906, A., i, 766.
- m*-Phenylenedisulphon-acetonitrile and -thioacetamide (TRÖGER and HILLE), 1905, A., i, 337.
- m*-Phenylenedisulphondiethenylamin-oxime (TRÖGER and VOLKMER), 1905, A., i, 356.
- p*-Phenylenedixanthanol and its salts (CONE and WEST), 1911, A., i, 805.
- o*-Phenyleneguanidine and its benzoyl derivative (PIERON), 1908, A., i, 926.
- o*-Phenylenemalonamide (MEYER and V. LUTZAU), 1906, A., i, 765.

- o*-Phenylene-methyldiamine, 2:4:5-trichloro-, formyl derivative of (BADISCHE ANILIN- & SODA-FABRIK), 1907, A., i, 444.
- p*-Phenylene-methyldiamine (WILLSTÄTTER and PFANNENSTIEL), 1905, A., i, 669.
- 2-Phenylene-6-methylpyridineketone. See 2-*o*-Benzylene-6-methylpyridine.
- o*-Phenylene- $\beta$ -naphthylene ketone and its phenylhydrazone (THIELE and SCHNEIDER), 1909, A., i, 929.
- Phenylene- $\beta$ -naphthylene oxide (SABATIER and MAILHE), 1912, A., i, 767.
- Phenylene-2:3-naphthylene oxide. See Brazan.
- Phenylene-naphthylene-sultam (ULLMANN and GROSS), 1910, A., i, 886.
- Phenyleneoxamide (MOTYLOWSKI), 1908, A., i, 371; (HINSBERG), 1908, A., i, 694.
- Phenylene-phthalyleinchonimides, *m*- and *p*- (ROSSI), 1904, A., i, 1047.
- Phenylene-pyrocinchonimides, *m*- and *p*-amino-, and -pyrocinchonic diamide (ROSSI), 1904, A., i, 1046.
- o*-Phenylene-sebacamide (MEYER and MAIER), 1906, A., i, 766.
- o*-Phenylene-isosuccinimide (MEYER and JAEGER), 1906, A., i, 766.
- o*-Phenylene-sulphonylde (ANSCHÜTZ), 1912, A., i, 852.
- m*-Phenylene-tetramethyldiamine, new derivatives of (SACHS and APPENZELER), 1908, A., i, 227.
- p*-Phenylene-tetramethyldiamine (MEYER), 1903, A., i, 861.
- o*-Phenylene-thiocarbamide, *p*-chloro- (FISCHER and LIMMER), 1906, A., i, 895.
- Phenylethane. See Ethylbenzene.
- Phenylethanol, *p*-hydroxy-. See Tyrosol.
- Phenylethanolamine, *o*-*d*hydroxy-, preparation of (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1909, A., i, 792.
- Phenylethanol-carbamide and -thiocarbamide (KNORR and RÖSSLER), 1903, A., i, 465.
- Phenylethanolmethylamine, *o*-*d*hydroxy-, preparation of crystalline salts of, and hydrochloride of (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1909, A., i, 229.
- Phenylethenylamidine benzenesulphonate (ROVILEER), 1912, A., i, 584.
- Phenylethenylamidine, 2:4:5-tri- and tetra-chloro- (BADISCHE ANILIN- & SODA-FABRIK), 1907, A., i, 444.
- Phenylethenylamino-oxime, hydroxy- (CONDUCHÉ), 1908, A., i, 155.
- Phenylethenyl-mono- and -di-phenylhydrazidines (VOSWINCKEL), 1903, A., i, 778.
- Phenyl-ether-*o*-carboxylic acid. See *o*-Phenoxybenzoic acid.
- Phenylethoxyacetic acid, affinity constant of (FINDLAY, TURNER, and OWEN), 1909, T., 939; P., 146.
- dl*-Phenylethoxyacetic acid, *l*-bornyl and *l*-menthyl esters, hydrolysis of, by alkali (MCKENZIE and THOMPSON), 1905, T., 1010; P., 184.
- Phenyl  $\beta$ -ethoxyethyl ketone, 4-bromo-, and its phenylhydrazone (KÖHLER), 1909, A., i, 939.
- Phenylethoxyglyoxime peroxide (WIELAND), 1903, A., i, 770.
- 1-Phenyl-3-ethoxymethyl-5-pyrazolone-4-carboxylic acid, *p*-nitro-, ethyl ester (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1910, A., i, 340.
- 3-Phenylethoxymethylthiocarbamide (JOHNSON and GUEST), 1909, A., i, 371.
- Phenyl  $\alpha$ -ethoxystyryl ketone (SLUITER), 1905, A., i, 796.
- $\beta$ -Phenylethyl alcohol. See Benzylcarbinol.
- $\alpha$ -Phenylethyl ethyl ether (HOLMBERG), 1912, A., i, 448.
- $\beta$ -Phenylethyl mercaptan (v. BRAUN), 1912, A., i, 551.
- $\gamma$ -Phenyl- $\alpha$ -ethylacetoacetic acid,  $\alpha$ -cyano-, ethyl ester, and its hydrolysis, and anilide (SMITH and THORPE), 1907, T., 1905; P., 249.
- $\beta$ -Phenyl- $\alpha$ -ethylacrylic acid, methyl ester (POSNER), 1911, A., i, 53.
- Phenylethylalkylamines, *p*-hydroxy-, synthesis of (WALPOLE), 1910, T., 941; P., 87.
- $\delta$ -Phenyl- $\beta$ -ethylallylmalonamic acid (MACLEOD), 1910, A., i, 846.
- Phenylethylamine,  $\omega$ -trichlorohydroxy-*m*-cyano- (BOGERT and BEANS), 1904, A., i, 585.
- $\alpha$ -Phenylethylamine and its formyl derivative (WALLACH), 1906, A., i, 160.
- oxidation of (BAMBERGER and SELIGMAN), 1903, A., i, 324.
- $\alpha$ -Phenylethylamine, *p*-hydroxy-, and its hydrochloride and dibenzoyl derivative (TUTIN, CATON, and HANN), 1909, T., 2123.
- d*-camphorsulphonate, and its active forms and their benzoyl derivatives (MOORE), 1911, T., 419; P., 42.
- l*- $\alpha$ -Phenylethylamine (KIPPING and HUNTER), 1905, P., 126.



**$\beta$ -Phenylethylamine** and its aur- and platin-chlorides (EMDE), 1911, A., ii, 314.

salts (DEHN), 1912, A., i, 242.

picrate (DECKER and KROPP), 1909, A., i, 513.

platinichloride (DECKER and BECKER), 1912, A., i, 844.

**$\beta$ -Phenylethylamine**, *p*-amino-, and its derivatives (JOHNSON and GUEST), 1910, A., i, 310.

dihydrochloride (EHRlich and FISCHSCHIMUKI), 1912, A., i, 853.

$\beta$ -hydroxy-, and its hydrochloride (ROSEN MUND), 1912, A., i, 449.

*o*-hydroxy-, and its methyl ether, and their hydrochlorides (PSCHORR and EINBECK), 1905, A., i, 590.

*o*-hydroxy-, and *m*-hydroxy-, hydrochloride (FARBENFABRIKEN VORM. F. BAYER & Co.), 1911, A., i, 629.

*p*-hydroxy-, and its hydriodide and hydrochloride (ROSEN MUND), 1910, A., i, 106, 241.

syntheses of (BARGER), 1909, T., 1123; P., 162; (BARGER and WALPOLE), 1909, T., 1720; P., 229.

preparation of (FARBENFABRIKEN VORM. F. BAYER & Co.), 1911, A., i, 437.

fate of, in the organism (EWINS and LAIDLAW), 1910, A., ii, 985.

$\beta$ -*p*-dihydroxy-, and its hydrochloride and di- and tri-benzoyl derivatives (TUTIN, CATON, and HANN), 1909, T., 2120; P., 289.

3:4-dihydroxy-, and its hydrochloride (ROSEN MUND, MANNICH, and JACOBSON), 1912, A., i, 967.

preparation of, and its hydrobromide (BARGER and EWINS), 1910, T., 2257; P., 248; (MANNICH and JACOBSON), 1910, A., i, 168.

2:3:4-trihydroxy-, hydrochloride (BARGER and EWINS), 1910, T., 2260; P., 248.

*o*- and *p*-nitro-, and 2:4-dinitro-, and their derivatives (JOHNSON and GUEST), 1910, A., i, 310.

*p*-nitro- and its hydrochloride (BARGER and WALPOLE), 1909, T., 1723.

**Phenylethylamines**, hydroxy-, preparation of (FARBENFABRIKEN VORM. F. BAYER & Co.), 1911, A., i, 629.

$\alpha$ -3:4-trihydroxy-, preparation of (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1909, A., i, 569.

**$\alpha$ -Phenylethylamines**, optically active, and their derivatives (MARCKWALD and MEH), 1905, A., i, 273; (LOVÉN), 1905, A., i, 875. salts of (HUNTER and KIPPING), 1903, T., 1147; P., 203.

**Phenylethylaminoacetonitrile**, *p*-bromo-, and its platinichloride and methiodide (v. BRAUN), 1908, A., i, 626.

**$\omega$ -Phenylethylaminoacetophenone**, semicarbazones (BUSCH and HEFELE), 1911, A., i, 584.

**$\beta$ -Phenylethylaminomalon- $\beta$ -phenylethylamide** and its salts (DECKER and BECKER), 1911, A., i, 714.

**2-Phenylethylamino-5-methyl-4:5-dihydrothiazole** and its platinichloride (YOUNG and CROOKES), 1905, P., 308; 1906, T., 70.

*d*- and *l*- **$\alpha$ -Phenylethylamino-*d*-methylenecamphor** (POPE and READ), 1909, T., 172.

**$\omega$ -Phenylethylaminomethylisatin** (EINHORN and GÜTTLER), 1910, A., i, 137.

**Phenylethylammonium methyl sulphate** (JOHNSON and GUEST), 1910, A., i, 471.

platinibromide (GUTBIER, BAURIEDEL, and OBERMAIER), 1911, A., i, 33.

**Phenylethylbarbituric acid**, compounds of, with quinine and with hydroquinine (FARBENFABRIKEN VORM. F. BAYER & Co.), 1912, A., i, 798.

**5-Phenyl-5-ethylbarbituric acid** and its salts (FARBENFABRIKEN VORM. F. BAYER & Co.), 1912, A., i, 1024.

**Phenylethylbenzenylamidine** (LANDER), 1903, T., 320; P., 15.

**1-Phenyl-2-ethylbenzimidazole**, 4:7-dinitro-6-hydroxy- (MELDOLA and KUNTZEN), 1911, T., 2041.

**Phenylethylbromoarsine** (WINMILL), 1912, T., 720.

**$\alpha$ -Phenyl- $\beta$ -ethyl-butaldehyde** and its semicarbazone and -butane- $\alpha$ - $\beta$ -diol (TIFFENEAU and DORLENCOURT), 1907, A., i, 131.

**$\alpha$ -Phenyl- $\beta$ -ethylbutanedione**. See Ethylbenzoylacetone.

***p*-Phenylethyl butyl ketone** and its oxime and semicarbazone (LAYRAUD), 1906, A., i, 433.

**$\alpha$ -Phenyl- $\alpha$ -ethylbutyramide** (BODROUX and TABOURY), 1910, A., i, 557; (FARBENFABRIKEN VORM. F. BAYER & Co.), 1912, A., i, 974.

**$\alpha$ -Phenyl- $\alpha$ -ethylbutyric acid** (BODROUX), 1910, A., i, 672.

**$\gamma$ -Phenyl- $\beta$ -ethylbutyric acid** and its calcium salt (EYKMAN), 1904, A., i, 590.

- $\gamma$ -Phenyl- $\beta$ -ethylbutyrolactone** (EYKMAN), 1904, A., i, 590.
- $\alpha$ -Phenyl- $\alpha$ -ethylbutyronitrile** (BODROUX and TABOURY), 1910, A., i, 482; (FARBENFABRIKEN VORM. F. BAYER & Co.), 1912, A., i, 974.
- $\alpha$ -Phenyl- $\alpha$ -ethylbutyrylcarbamide** (FARBENFABRIKEN VORM. F. BAYER & Co.), 1912, A., i, 974.
- $s$ -Phenylethylcarbamidoazobenzene** (DIMROTH), 1905, A., i, 311.
- Phenylethylcarbinol** (DAVIES and KIPPING), 1911, T., 298.  
hydrogen succinate of (PICKARD and KENYON), 1911, T., 59.
- Phenylethylcarbinol, dibromo-**(SCHMIDT and GOEHRING), 1909, A., i, 322.
- $d$ -Phenylethylcarbinol** and the brucine salt of the hydrogen succinate of (PICKARD and KENYON), 1911, T., 60.
- $l$ -Phenylethylcarbinol** and hydrogen succinate of, and its cinchonidine salt (PICKARD and KENYON), 1911, T., 61.
- Phenylethyl-dichloroacetal** (ODDO and MAMELI), 1906, A., i, 135, 620.
- Phenylethylchloroarsine** (WINMILL), 1912, T., 720.
- Phenylethylalkylamines**, hydroxy-, preparation of (FARBENFABRIKEN VORM. F. BAYER & Co.), 1911, A., i, 629.
- $\beta$ -Phenylethyldiethylamine** and its picrate and platinichloride (v. BRAUN), 1911, A., i, 35.
- 5-Phenyl-10-ethyldihydroacridine**, 5-cyano- (KAUFMANN, ALBERTINI, and HOLDSBOER), 1909, A., i, 606.  
5-hydroxy-, and its ethyl ether (SCHMID and DECKER), 1906, A., i, 306.
- 2-Phenyl-1-ethyl-1:2-dihydrocinchonine** (FREUND and MAYER), 1910, A., i, 132.
- $N$ -Phenyl- $\alpha$ -ethyldihydrophenanthra-phenazine** and its hydrochloride and hydrobromide (FREUND and RICHARD), 1909, A., i, 418.
- 3-Phenyl-6-ethyldihydropyrazoquin-azolone** (MICHAELIS and LEO), 1910, A., i, 515.
- 4- $\beta$ -Phenylethyldihydro-6-pyridone**, 3:5-dicyano-2-hydroxy-, ammonium derivative of (PICCININI), 1904, A., i, 91.
- 4-Phenyl-4-ethyldihydrouracil** (POSNER and STIRNUS), 1912, A., i, 456.
- $\beta$ -Phenylethyldimethylamine** and its salts (DECKER and BECKER), 1912, A., i, 844.
- $\beta$ -Phenylethyldimethylamine**, synthesis of (BARGER), 1909, T., 2195; (JOHNSON and GUEST), 1910, A., i, 470.
- $\beta$ -Phenylethyldimethylamine,  $m$ -hydroxy-**(FARBENFABRIKEN VORM. F. BAYER & Co.), 1911, A., i, 629.  
 $p$ -hydroxy-. See Hordenine.
- Phenylethyldimethylthiocarbamide** (v. BRAUN and DEUTSCH), 1912, A., i, 693.
- Phenylethyldisulphone-ethane, -methane, dimethylmethane, and-phenylmethane** (POSNER and HAZARD), 1903, A., i, 243.
- Phenylethylene**. See Styrene.
- Phenylethylenecatechol**, preparation of (LAZENNEC), 1909, A., i, 469.
- Phenylethylethylenylamidine**, 2:4:5-*tri*- and *tetra*-chloro- (BADISCHE ANILIN- & SODA-FABRIK), 1907, A., i, 444.
- Phenylethylethoxyethylcarbinol** (REYNOLDS), 1910, A., i, 858.
- $\alpha$ -Phenylethylethylamine** and its derivatives (WIELAND and FRESSER), 1911, A., i, 496.
- $\beta$ -Phenylethylethylamine** and its derivatives (v. BRAUN), 1911, A., i, 35.
- $\beta$ -Phenylethylethylamine,  $p$ -hydroxy-**, and its derivatives (WALPOLE), 1910, T., 948; P., 88.  
3:4-*dihydroxy*-, and its hydrochloride (PYMAN), 1910, T., 274.
- $\beta$ -Phenylethylethylecyanamide** (v. BRAUN), 1911, A., i, 35.
- $\beta$ -Phenyl- $\beta$ -ethylethylenelactic acid**. See  $\beta$ -Phenylvaleric acid,  $\beta$ -hydroxy-.
- $\beta$ -Phenyl- $\beta$ -ethylglycidic acid**, ethyl ester (CLAISEN), 1905, A., i, 287.
- $\beta$ -Phenylethylglycine** and its hydrochloride (DECKER and BECKER), 1911, A., i, 714.
- Phenylethylglycollic acid** and its ethyl ester (GRIGNARD), 1903, A., i, 32.
- $\alpha$ -Phenyl- $\alpha$ -ethylglycollic acid**. See  $\alpha$ -Phenylbutyric acid,  $\alpha$ -hydroxy-.
- $\alpha$ -Phenyl- $\epsilon$ -ethyl- $\Delta^{\alpha\gamma}$ -heptadien- $\epsilon$ -ol** (REYNOLDS), 1911, A., i, 861.
- 1-Phenyl-3-ethylcyclohexadiene** (BLAISE and MAIRE), 1908, A., i, 391.
- 4-Phenyl-1-ethylcyclohexane-2:6-dione-3:5-dicarboxylic acid**, ethyl ester (DIECKMANN and KRON), 1908, A., i, 389.
- 1-Phenyl-4-ethylhydantoin**, 2-thio- (BRAUTLECHT), 1911, A., i, 922.
- $\beta$ -Phenyl- $\beta$ -ethylhydracrylic acid** (SCHROETER), 1907, A., i, 531.
- $s$ -Phenylethylhydrazine** (TICHWINSKY), 1905, A., i, 93.  
and its oxalate (KNORR), 1906 A., i, 893.

- s*-Phenylethylhydrazine, hydrochloride and benzoyl derivative of (KNORR and WEIDEL), 1909, A., i, 966.
- as*-Phenylethylhydrazine and its benzoyl derivative (BAMBERGER and TICHWINSKY), 1903, A., i, 131; (TICHWINSKY), 1903, A., i, 442.
- Phenylethylhydrazinopyrine and its alkyl iodides (MICHAELIS and KOBERT), 1909, A., i, 680.
- 1-*a*-Phenylethylidenamino-1:3:4-triazole (BÜLOW), 1909, A., i, 680.
- Phenylethylidene-*p*-benzoquinone, bromo-derivatives (ZINCKE and GEIBEL), 1906, A., i, 740.
- β*-Phenylethylidenebishydrazobenzene (RASSOW and BURMEISTER), 1911, A., i, 820.
- Phenylethylidenedeoxybenzoin (RUHMANN), 1910, T., 459.
- Phenylethylidenehydrazine. See Acetaldehydephenylhydrazone.
- Phenylethylidenephosphamic chloride, *α*-chloro-*β*-bromo- (STEINKOPF and BENEDEK), 1908, A., i, 963.
- α*-Phenylethylidenetriazaoacetohydrazide (CURTIUS and BOCKMÜHL), 1912, A., i, 426.
- 3-Phenyl-2-ethylisindolinone, 3-hydroxy- (SACHS and LUDWIG), 1904, A., i, 267.
- 2-Phenyl-3-ethylisindolinone, 3-hydroxy- (BÉIS), 1906, A., i, 884.
- Phenyl ethyl ketone. See Propiophenone.
- β*-Phenyl-*β*-ethyl-lactic acid. See *β*-Phenylbutyric acid, *β*-hydroxy-.
- β*-Phenylethylmalonic acid (KÖHLER and REIMER), 1905, A., i, 348.
- Phenylethylmalonic acid and its chloride (FARBENFABRIKEN VORM. F. BAYER & Co.), 1912, A., i, 1025.
- ethyl ester (FARBENFABRIKEN VORM. F. BAYER & Co.), 1912, A., i, 1024.
- β*-Phenylethylmalonic acid and its ethyl ester (KÖHLER), 1905, A., i, 701.
- γ*-Phenylethylmalonic acid and its ethyl ester and *α*-bromo- (FISCHER and SCHMITZ), 1906, A., i, 182, 584.
- β*-Phenylethylmethylamine and its salts (DECKER and BECKER), 1912, A., i, 845.
- synthesis of, and its salts (JOHNSON and GUEST), 1909, A., i, 784.
- β*-Phenylethylmethylamine, *p*-hydroxy-, and its derivatives (WALPOLE), 1910, T., 945; P., 88.
- 3:4-dihydroxy- and its salts (PYMAN), 1910, T., 272.
- α*:3:4-trihydroxy-, preparation of (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1909, A., i, 792.
- β*-Phenylethylmethylamine, *p*-nitro-, and its hydrobromide (JOHNSON and GUEST), 1910, A., i, 471.
- α*-Phenylethyl-methyl- and -ethylamines and their hydrochlorides (BUSCH and LEEFHELM), 1908, A., i, 153.
- 1-Phenyl-2-ethyl-3-methylbenzimidazolium, 4:7-dinitro-6-hydroxy-, iodide and chloride (MELDOLA and KUNTZEN), 1911, T., 2041.
- α*-Phenylethyl-*α*-methylcarbamide (JOHNSON and GUEST), 1909, A., i, 785.
- β*-Phenylethylmethylcyanamide (v. BRAUN), 1911, A., i, 35.
- Phenylethyl methyl ether (HAMONET), 1904, A., i, 401.
- β*-Phenylethyl methyl ketone, 4-bromo- and 4-chloro-2-nitro-*β*-hydroxy- (SACHS and SICHEL), 1904, A., i, 594.
- 1-*α*-Phenylethyl-5-methyl-1:2:4-triazole, 3-hydroxy- (RUPE and OESTREICHER), 1912, A., i, 220.
- α*-Phenylethyl-*β*-1-naphthylcarbamide (JOHNSON and GUEST), 1909, A., i, 785.
- α*-Phenylethyl-*β*-2-naphthyl-*α*-methylcarbamide (JOHNSON and GUEST), 1909, A., i, 785.
- 5-Phenyl-3-ethylisooxazole (MOUREU and BRACHIN), 1904, A., i, 96.
- Phenylethylisooxazolone (HALLER and BAUER), 1911, A., i, 568.
- 3-Phenyl-1-ethylcyclopentadiene and -pentane (BORSCHKE and MENZ), 1908, A., i, 149.
- γ*-Phenyl-*γ*-ethylpentane (SCHREINER), 1910, A., i, 661.
- δ*-Phenyl-*β*-ethyl-*Δγ*-pentenoamide (MACLEOD), 1910, A., i, 846.
- δ*-Phenyl-*β*-ethyl-*Δγ*-pentoic acid, *α*-cyano-, and its potassium salt and ethyl ester (MACLEOD), 1910, A., i, 846.
- β*-Phenylethylphenylcyanamide (v. BRAUN), 1911, A., i, 35.
- Phenyl-*p*-ethylphenylhydrazine, *op*-dinitro- (WILLGERODT and HARTER), 1905, A., i, 552.
- Phenylethylphenylmethylsuccinic acid, synthesis of (EYKMAN), 1905, A., i, 529.
- α*-Phenylethylphenylthiocarbamide, *α*-hydroxy- (KOLSHORN), 1904, A., i, 676.
- Phenylethylphosphinic acid, and its ethyl ester (ARBUSOFF), 1910, A., i, 803.
- Phenylethylpiperidinium bromide (v. BRAUN), 1908, A., i, 678.
- 1-*β*-Phenylethylcyclopropane-2-carboxylic acid, amide of (v. DER HEIDE), 1904, A., i, 583.



- $\beta$ -Phenyl- $\alpha$ -ethylpropionhydroxamoxime hydrate**,  $\beta$ -hydroxylamino- (POSNER and STIRNUS), 1912, A., i, 456.
- $\beta$ -Phenyl- $\alpha$ -ethylpropionic acid**, resolution of, and *d*-, and its *l*-menthylamine, and metallic salts of (PICKARD and YATES), 1909, T., 1018; P., 152.
- phenylethylamides of (MOHR), 1905, A., i, 428.
- $\beta$ -Phenyl- $\alpha$ -ethylpropionic acid**,  $\beta$ -amino- (POSNER and STIRNUS), 1912, A., i, 456.
- $\beta$ -bromo-** (FICHTER and ALBER), 1907, A., i, 86.
- $\beta$ -Phenyl- $\alpha$ -ethylpropiophenone** and its oxime (HALLER and BAUER), 1910, A., i, 490.
- Phenylethyl-*n*-propylallylarsonium** bromide and *d*- $\alpha$ -bromo-camphor- $\pi$ -sulphonate (WINMILL), 1912, T., 722; P., 93.
- Phenylethylpropylamine**, 3:4-*di*hydroxy- and its hydrochloride (PYMAN), 1910, T., 275.
- $\alpha$ -Phenylethylisopropylamine** and its salts and derivatives (DE LEEUW), 1912, A., i, 24.
- Phenylethyl-*n*-propylarsine** (WINMILL), 1912, T., 720.
- Phenylethylisopropylcarbinol** and its chloride (KLAGES and HAEN), 1904, A., i, 497.
- Phenylethylpropylsilicol** and its chloride, preparation of (KIPPING), 1907, T., 218.
- 5-Phenyl-3-ethylpyrazole** and its picrate (MOUREU and BRACHIN), 1904, A., i, 824.
- 1-Phenyl-4-ethyl-pyrazole**, 3:5-*di*-chloro-, -3:5-pyrazolidone and its dibenzoyl and dibenzenesulphonyl derivatives, and -5-pyrazolone, 3-chloro- (MICHAELIS and SCHENK), 1909, A., i, 59.
- 1-Phenyl-4-ethyl-5-pyrazolidone** and -5-pyrazolone (BLAISE and LUTTRINGER), 1905, A., i, 627.
- 5-Phenyl-2-ethyl-3-pyrazolidone**, 1-nitroso- (MUCKERMANN), 1911, A., i, 683.
- 1-Phenyl-3-ethylpyrazoline** (MAIRE), 1908, A., i, 291.
- 1-Phenyl-3-ethyl-5-pyrazolone-4-phenylhydrazone** (WAHL and DOLL), 1912, A., i, 536.
- 2- $\beta$ -Phenylethylpyridine**,  $\beta$ -hydroxy- (*phenyl- $\alpha$ -picolylalkine*), resolution of, into its optically active components (LÖFFLER and GRUNERT), 1907, A., i, 441.
- 4-Phenylethylpyridine** and its -3-carboxylic acid and their additive salts (FELS), 1904, A., i, 618.
- 2- $\beta$ -Phenylethylquinoline**, 5-, 6-, and 8-amino-, and their additive salts (SCHMIDT), 1906, A., i, 39.
- $\beta$ -hydroxy-, and its salts (BENRATH), 1906, A., i, 535.
- 4-Phenyl-2-ethylquinoline**, 7-hydroxy- (BÜLOW and ISSLER), 1904, A., i, 191.
- 3- $\beta$ -Phenylethylrhodanine** (HOLMBERG), 1912, A., i, 131.
- $\alpha$ -Phenylethylsemicarbazide** and its derivatives (RUPE and OESTREICHER), 1912, A., i, 220.
- 2-Phenyl-4-ethylsemicarbazide** and its 1-*dithiocarboxylic acid*, methyl ester (BUSCH and FREY), 1903, A., i, 538.
- Phenylethylsilicanediol** (ROBISON and KIPPING), 1912, T., 2158; P., 245.
- Phenylethyl-silicon dichloride** and -silicone, preparation of (KIPPING), 1907, T., 215.
- Phenylethylsulphone**, *p*-iodo-, *p*-iodoso-, and *p*-iodoxy-, and their derivatives (WILLGERODT and KLINGER), 1912, A., i, 256.
- Phenylethylthiobenzamide** (RUSSELL), 1910, T., 957.
- Phenylethyl*dithiobiuret*** (FROMM and BAUMHAUER), 1908, A., i, 702.
- Phenylethyl- $\psi$ -*dithiobiurets*** (JOHNSON and BRISTOL), 1903, A., i, 751.
- Phenylethylthiolcarbamie acid**, phenyl ester (RIVIER), 1907, A., i, 838.
- 1-Phenyl-4-ethylthiosemicarbazino-acetic acid** and its ethyl ester (BUSCH and MEUSSDÖRFFER), 1907, A., i, 449.
- $\beta$ -Phenylethyl*dithiourethane*** (v. BRAUN), 1912, A., i, 551.
- Phenylethylthiuret**, action of aromatic amines and hydrazines on (FROMM and BAUMHAUER), 1908, A., i, 702.
- Phenylethyl-*o*- and -*p*-toluidines**, 2:4-*dinitro*- (REITZENSTEIN), 1903, A., i, 816.
- Phenylethyltriazene** and its metallic and acetyl derivatives (DIMROTH), 1905, A., i, 311, 618.
- 1- $\alpha$ -Phenylethyl-1:2:4-triazole**, 3-hydroxy- (RUPE and OESTREICHER), 1912, A., i, 220.
- $\beta$ -Phenylethyltrimethylammonium salts** (EMDE), 1911, A., ii, 314; (DECKER and BECKER), 1912, A., i, 844.
- bromide (v. BRAUN), 1911, A., i, 35.
- chloride, reduction of, with sodium amalgam (EMDE), 1912, A., i, 250.
- 3:4-*di*hydroxy- (BARGER and EWINS), 1910, T., 2258.

- $\beta$ -Phenylethyltrimethylammonium iodide** (JOHNSON and GUEST), 1909, A., i, 785.
- hydroxy- (PSCHORR and EINBECK), 1905, A., i, 590.
- p*-nitro- (JOHNSON and GUEST), 1910, A., i, 471.
- Phenylethyluramil** (MÖHLAU and LIT-TER), 1906, A., i, 612.
- 1-Phenyl-2-ethylurazole** and its silver salt (BRUNEL and ACREE), 1910, A., i, 521.
- $\alpha$ -Phenyl- $\beta$ -ethylvaleric acid** (*phenyl-diethylcarbinylacetic acid*) (FARBEN-FABRIKEN VORM. F. BAYER & CO.), 1912, A., i, 974.
- Phenyleuxanthanol** dimethyl ether. See 2:8-Dimethoxy-9-phenylxanthen-9-ol.
- tert*-. **Phenylfenchol** (LEROIDE), 1909, A., i, 596.
- 9-Phenylfluorene** and its benzoyl derivative (WERNER and GROB), 1904, A., i, 865.
- and the corresponding carbinol, amino-derivatives of (ULLMANN and v. WURSTEMBERGER), 1904, A., i, 154; (GUYOT and GRANDERYE), 1905, A., i, 248.
- and 9-bromo-, 9-chloro-, 2-nitro-, and tetranitro- (KLIEGL), 1905, A., i, 187.
- 9-Phenylfluorene-9-carboxylic acid**, *p*-hydroxy-, and lactone of *o*-hydroxy- (BISTEZYCKI and v. WEBER), 1910, A., i, 743.
- Phenylfluorenol** and its acetate and methyl and ethyl ethers (KLIEGL), 1905, A., i, 187.
- $\gamma$ -Phenyl- $\alpha$ -fluorenylparaconic acid** (STOBBE, BADENHAUSEN, HENN-ICKE, and WAHL), 1911, A., i, 381.
- 9-Phenylfluorone** (POPE and HOWARD), 1911, T., 548; P., 53.
- and amino-, *N*-acetyl derivative of, and hydroxy- (KEHRMANN and DENGLE), 1908, A., i, 1002.
- m*-bromo-, *m*-nitro-2:3:7-*tri*hydroxy-, and 5'-nitro-2:3:7:2'-*tetra*hydroxy-, and their sulphates and acetyl derivatives (HEINTSCHEL), 1905, A., i, 809.
- tetrabromo*-3-hydroxy- (POPE and HOWARD), 1910, T., 82.
- 3-hydroxy- (POPE and HOWARD), 1910, T., 1026.
- 2:3-*tri*hydroxy-, and its salts, and triacetyl derivative (LIEBERMANN, LINDENBAUM, and GLAWE), 1904, A., i, 443.
- 9-Phenylfluorone**, 2:3:7-*tri*hydroxy-, ethers of (KEHRMANN and GUNTHER), 1912, A., i, 1012.
- 2:3:7-*o*- and 2:3:7-*p*-*tetra*- and 2:3:7-*mp*-*penta*-hydroxy-, and their sulphates and acetyl derivatives (LIEBERMANN and LINDENBAUM), 1904, A., i, 765.
- Phenylfluoryl peroxide** (GOMBERG and CONE), 1906, A., i, 822; (STAUD-INGER), 1906, A., i, 824.
- Phenylformol**, preparation of (NASTU-KOFF), 1904, A., i, 242.
- Phenylformylaminomethylcarbinol** (PIC-TET and GAMS), 1910, A., i, 774.
- Phenylfumaric diamide**, *p*-hydroxy- (PIUTTI), 1910, A., i, 23.
- Phenylfuran**, hydroxy- (WIELAND and SEMPER), 1908, A., i, 109.
- 1-Phenyl-4-furfurylidenehydantoin**, 2-thio- (WHEELER and BRAUTLECHT), 1911, A., i, 501.
- 2-Phenyl-4-furfurylideneoxazolone** (ERLENMEYER and STADLIN), 1905, A., i, 238.
- 1-Phenyl-5-furyl-3-methylpyrazoline** (AUWERS and VOSS), 1910, A., i, 71.
- 1-Phenyl-3-furyl-2-methyl-5-isopyrazol-one**, 4-nitroso-, and its hydrochloride (TORREY and ZANETTI), 1910, A., i, 893.
- Phenylfuryl-1:3:4-oxadiazole** and its silver nitrate compound (STOLLÉ and MÜNCH), 1905, A., i, 95.
- $\alpha$ -Phenyl- $\gamma$ -2-furylpropane** (*tetrahydro-carlina oxide*) (SEMMLER), 1906, A., i, 298.
- $\alpha$ -Phenyl- $\gamma$ -2-furylpropane- $\alpha$ - $\gamma$ -dione** and its oxime, dioxime, and diacetate (SEMMLER and ASCHER), 1909, A., i, 597.
- $\alpha$ -Phenyl- $\gamma$ -2-furylpropan- $\alpha$ -ol** and its ethyl ether, acetate, chloride, and phenylurethane (SEMMLER and AS-CHER), 1909, A., i, 597.
- $\alpha$ -Phenyl- $\gamma$ -2-furyl- $\Delta^{\alpha}$ -propene** (*dihydro-carlina oxide*) (SEMMLER and ASCHER), 1909, A., i, 597.
- 1-Phenyl-3-furyl-5-pyrazolone**, acetyl, benzoyl, and nitroso-derivatives of (TORREY and ZANETTI), 1907, A., i, 147.
- hydrochloride, and *p*-bromo-, *m*-nitro-, and 4-oximino- (TORREY and ZANETTI), 1910, A., i, 893.
- 2-Phenyl-3-furyl-4-isopyrazolone** (TOR-REY and ZANETTI), 1910, A., i, 893.
- Phenylgallacetophenone** (*tri*hydroxy-*deacetylbenzoic acid*) and its oxime and iso-nitroso-derivatives (NOELTING and KADIERA), 1906, A., i, 593.

**$\alpha$ -Phenylgeraniol** (FARBENFABRIKEN VORM. F. BAYER & CO.), 1904, A., i, 842; (AUSTERWEIL and COCHIN), 1910, A., i, 687.

**$\alpha$ -Phenylglucosazone**, melting point of (TUTIN), 1907, P., 250.

**$\beta$ -Phenylglutaconic acid** and its barium and calcium salts, semianilide, semi-*p*-toluidide, anil and *p*-tolil (FEIST and POMME), 1910, A., i, 39.

derivatives of (BLAND and THORPE), 1912, T., 868; P., 49.

**Phenylglutaconimide**, cyano-. See 4-Phenyl- $\Delta^{3,4}$ -dihydropyridone, cyano-6-hydroxy-.

**$\beta$ -Phenylglutaric acid**, nitro-derivatives, and their isomerides (SCHROETER and MEERWEIN), 1903, A., i, 831.

**$\beta$ -Phenylglutaric acid**, *m*-amino-, and *p*-hydroxy- (KÖTZ), 1907, A., i, 708.

and its methyl ester, and *o*-, *m*-, and *p*-nitro- (MEERWEIN and SCHROETER), 1907, A., i, 534.

**$\alpha\beta$ -dibromo-** (FEIST and POMME), 1910, A., i, 39.

**Phenylglyceramide** (FISCHER), 1912, A., i, 187.

**Phenylglyceric acid**, diacetyl derivative (DIECKMANN), 1910, A., i, 384.

**Phenylglyceric acids**, fate of, in the animal organism (DAKIN), 1909, A., ii, 684.

**Phenyl glycerol ethers**, *o*- and *p*-chloro- (EHLÖTZKY), 1909, A., i, 786.

**Phenylglycerylglycine** (FISCHER), 1912, A., i, 187.

**Phenylglycidic acid**, normal and acid potassium salts (DIECKMANN), 1910, A., i, 384.

sodium salt, interaction of, with phenylhydrazine (JAPP and MAITLAND), 1904, T., 1490; P., 205.

**Phenylglycinamide** (*anilinoacetamide*), *p*-chloro- (LUMIÈRE and PERRIN), 1903, A., i, 832.

*p*-hydroxy- (AKTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION), 1906, A., i, 658.

**Phenylglycine** (*anilinoacetic acid*) and its ethyl ester, amide, and salts, and its reaction with ethyl chlorocarbonate (A. and L. LUMIÈRE and BARBIER), 1906, A., i, 245.

and *p*-hydroxy- (HINSBERG), 1908, A., i, 453.

preparation of (DE MOULPIED), 1905, T., 438.

**Phenylglycine** (*anilinoacetic acid*) and its homologues, preparation of (BASLER CHEMISCHE FABRIK), 1904, A., i, 153; (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1907, A., i, 312.

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ethyl ester, preparation of (IMBERT and CONSORTIUM FÜR ELEKTRO-CHEMISCHE INDUSTRIE), 1908, A., i, 625.

bromo- and chloro-compounds, and their derivatives (SCHWALBE, SCHULZ, and JOCHHEIM), 1908, A., i, 974.

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**Phenylglycine**, *o*-bromo-, and *o*-iodo-, ethylesters (SCHOELLER, SCHRAUTH, and GOLDBACKER), 1911, A., i, 699.

*p*-hydroxy-, ethyl ester (REVERDIN and DE LUC), 1909, A., i, 913.

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*m*- and *p*-nitro-, and their *m*- and *p*-nitro-anilides (BOESCHE and TIT-SINGH), 1908, A., i, 104.

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and its salts (SANNA), 1905, A., i, 48.

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**Phenylglycine anhydride** (LEUCHS and GEIGER), 1908, A., i, 541.

**Phenylglycinearsenic disulphide** (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1909, A., i, 280.

**Phenylglycine-*p*-arsinic acid** (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1909, A., i, 280.

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nitrile of (BADISCHE ANILIN- & SODA-FABRIK), 1910, A., i, 319.



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- p*-bromo-, ethyl ester (CHEMISCHE FABRIK VON HEYDEN), 1905, A., i, 647.
- 3-, 4-, and 5-bromo- (FRIEDLÄNDER, BRUCKNER, and DEUTSCH), 1912, A., i, 318.
- dibromo-, preparation of (AKTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION), 1910, A., i, 257; (BADISCHE ANILIN- & SODA-FABRIK), 1910, A., i, 382.
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- 3-chloro-, and its dimethyl ester and 3:4-di-chloro-, methyl ester (BADISCHE ANILIN- & SODA-FABRIK), 1911, A., i, 539.
- 3:4-di-chloro- (BADISCHE ANILIN- & SODA-FABRIK), 1910, A., i, 319.
- 3:6-di-chloro-, and its nitrile (VILLIGER), 1909, A., i, 931.
- tetrachloro- (BADISCHE ANILIN- & SODA-FABRIK), 1910, A., i, 382.
- 6-chloro-4-bromo-, and 4:6-di-chloro-, methyl esters (BADISCHE ANILIN- & SODA-FABRIK), 1911, A., i, 156.
- 5-nitro-, and its salts (SCHWARZ), 1906, A., i, 90.
- 3:5-di-nitro- (PURGOTTI and LUNINI), 1904, A., i, 316.
- Phenylglycine-*m*-carboxylodiamide** (LUMIÈRE and PERRIN), 1903, A., i, 832.
- Phenylglycine-*o*-sulphonic acid**, derivatives of (BRADSHAW), 1906, A., i, 348.
- Phenylglycinesulphonyl chloride**, bromo- (CLAASZ), 1911, A., i, 437.
- Phenylglycinethioamide-*o*-carboxylic acid**, esters (BADISCHE ANILIN- & SODA-FABRIK), 1903, A., i, 627.
- Phenylglycinedithiocarboxylic acid**, benzyl hydrogen ester of (SIEGFRIED and WEIDENHAUPT), 1911, A., i, 116.
- Phenylglycinoacetic acid**, esters, condensation of, in presence of sodium alkyl oxides (DE MOULPIED), 1905, T., 435; P., 63.
- $\beta$ -Phenylglycinopropionic acid** and its esters, preparation of, and condensation of the esters (DE MOULPIED), 1905, T., 441; P., 64.
- Phenylglycinyl ethyl urethane**, *o*-chloro- (FRERICHS and BREUSTEPT), 1903, A., i, 18.
- Phenylglycol-*p*-arsinic acid** (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1910, A., i, 452.
- Phenylglycollic acid**. See Mandelic acid.
- 3-Phenylglycyl-*p*-cresol** (AUWERS and MÜLLER), 1909, A., i, 223.
- Phenylglycylglycine** (FISCHER and SCHMIDLIN), 1905, A., i, 694.
- $\beta$ -Phenylglycylglycylglycine-*N*-carboxylic acid** and its lactone and their esters (LEUCHS and LA FORGE), 1908, A., i, 724.
- Phenylglyoxalhydrazone** (WOLFF), 1912, A., i, 1028.
- Phenylglyoxalhydroxamic acid** (ANGELI and MARCHETTI), 1909, A., i, 12.
- Phenylglyoxalidone** (FINGER), 1907, A., i, 876.
- 5-Phenylglyoxaline** and its 1-ethyl derivative (PINNER), 1905, A., i, 476.
- and its platinichloride (PINNER), 1903, A., i, 123.
- Phenylglyoxal-*p*-nitrobenzylideneazaine** and its acetyl derivative (WOLFF), 1912, A., i, 1029.
- Phenylglyoxime**, 3:4-di-hydroxy-, preparation of (CHEMISCHE FABRIK AUF AKTIEN VORM. E. SCHERING), 1908, A., i, 657.
- Phenylglyoximic acid**, 4-nitro-2-hydroxy- (BORSCHÉ and OPPENHEIMER), 1912, A., i, 652.
- Phenylglyoxyldicarboxylic acid**, bromo- (GRAEBE and GUINSEBOURG), 1903, A., i, 409.
- Phenylglyoxylic acid** (*benzoylformic acid*), velocity of esterification of, by means of alcoholic hydrogen chloride (KAILAN), 1908, A., ii, 28.
- d*-amyl ester (McKENZIE and MULLER), 1909, T., 546.
- menthyl ester, reduction of, and action of magnesium alkyl haloids on (McKENZIE), 1904, T., 1249; P., 178.
- brucine salt (HILDITCH), 1911, T., 235.
- oxime and its ethyl ester (BORSCHÉ), 1909, A., i, 925.
- o*-nitrophenylhydrazone and its silver and potassium salts (GASTALDI), 1912, A., i, 700.
- Phenylglyoxylic acid**, *p*-amino-, acetyl derivative, and its derivatives and *p*-hydroxy-, preparation of (ALOY and RABAUT), 1911, A., i, 780.
- p*-bromo-, and its amide (WISLIZENUS and ELVERT), 1909, A., i, 31.

**Phenylglyoxylic acid**, 3:5-dibromo-2-hydroxy-, and its quinoxaline derivative (FRIES and MOSKOPF), 1910, A., i, 332.

*o*-hydroxy-, hydration of (FRITSCH), 1903, A., i, 174.

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*p*-hydroxy-, 3:4-dihydroxy-, and 3-nitro-4-hydroxy- (FRANCIS and NIERENSTEIN), 1911, A., i, 643.

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3:4-dihydroxy- (BARGER and EWINS), 1909, T., 560.

*o*-nitro-, and its ethyl ester (HELLER, FRANTZ, and JÜRGENS), 1911, A., i, 864.

**Phenylglyoxylic acids**, *o*-hydroxy-, and coumarandiones (FRIES), 1909, A., i, 175.

**Phenylglyoxylo-*p*-dimethylaminoanilide**, *o*-hydroxy-, and its benzoyl derivative (FRIES and PFAFFENDORF), 1912, A., i, 205.

**Phenyl-group**, migration of the (TIFFENEAU), 1904, A., i, 63; 1906, A., i, 965.

migration of the; "residual valency" structure of intermediate compounds (TIFFENEAU), 1907, A., i, 39, 922.

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**Phenylguanamine**. See 1-Phenyl-1:3:5-triazine, 3:5-diamino-.

**Phenylguanazole**, salts of (COHN), 1911, A., i, 929.

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**Phenylguanidine**, amino-, hydrobromide (PELLIZZARI and LARIA-BOTTE), 1911, A., i, 337.

cyano- (WHEELER and JAMIESON), 1903, A., i, 751.

***o*-Phenylguanidinebenzoic acid** (WHEELER, JOHNSON, and MCFARLAND), 1903, A., i, 859.

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**Phenylguanido-phenyl- and -*p*-phenetylthiocarbamides** and their acetyl, anhydro-, and benzyl derivatives (FROMM and VETTER), 1907, A., i, 983.

**Phenylguanido-*p*-tolyl- $\psi$ -benzylthiocarbamide** (FROMM and WELLER), 1908, A., i, 701.

**Phenylguanido-*p*-tolylthiocarbamide** and its acetyl derivative and its anhydro-compound, and amino- (FROMM and WELLER), 1908, A., i, 701.

**Phenylguaninoacetic acid** (*glycolyl-phenylguanidine*), nitrate and hydrochloride of (RAMSAY), 1909, A., i, 89.

***N*-Phenylhelicaldoxime** and its hydrate (SCHEIBER and KLOPPE), 1911, A., i, 383.

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**Phenyl heptadecyl ketone** and its phenylhydrazone (RYAN and NOLAN), 1912, A., i, 750.

**Phenylheptadecylnitrosoamine** (LE SUEUR), 1910, T., 2437.

$\eta$ -**Phenylheptaldehyde** and its *p*-nitrophenylhydrazone (v. BRAUN and KRUBER), 1912, A., i, 267.

$\alpha$ -**Phenylheptane**,  $\eta$ -nitro- (v. BRAUN and KRUBER), 1912, A., i, 267.

$\delta$ -**Phenylheptane- $\beta\zeta$ -dione** (v. BAEYER and PICCARD), 1911, A., i, 901.

$\gamma$ -**Phenylheptanone** and its oxime (KÖHLER), 1907, A., i, 1052.

$\delta$ -**Phenyl- $\Delta\gamma$ -heptene** and its nitrosochloride (MURAT and AMOUREUX), 1912, A., i, 528.

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$\alpha$ -**Phenyl- $\Delta\beta$ -hepten- $\epsilon$ -one** and its semicarbazone (RUPE and SPEISER), 1905, A., i, 352.

$\zeta$ -**Phenylheptic acid** and its ethyl ester and amide (v. BRAUN, DEUTSCH, and KRUBER), 1911, A., i, 969.

$\zeta$ -**Phenylheptonitrile** (v. BRAUN, DEUTSCH, and KRUBER), 1911, A., i, 969.

$\eta$ -**Phenylheptyl alcohol** and its acetate (v. BRAUN, DEUTSCH, and KRUBER), 1911, A., i, 969.

$\eta$ -**Phenylheptyl nitrite** (v. BRAUN and KRUBER), 1912, A., i, 267.

$\eta$ -**Phenylheptylamine** and its derivatives (v. BRAUN, DEUTSCH, and KRUBER), 1911, A., i, 969.

$\eta$ -**Phenylheptylamine**,  $\eta$ -iodo-, hydriodide and picrate of, and  $\eta$ -hydroxy-, and its platinichloride (GABRIEL), 1909, A., i, 892.

$\alpha$ -**Phenyl- $\Delta\alpha\gamma$ -hexadiene** and its optical behaviour (KLAGE), 1907, A., i, 500.

**9-Phenylhexahydroanthracene** (GODCHOT), 1908, A., i, 16.

- Phenyl hexahydrostyryl ketone** (FRÉZOUS), 1912, A., i, 629.
- ζ-Phenylhexaldehyde** (v. BRAUN and KRUBER), 1912, A., i, 267.
- 2-Phenylcyclohexamethyleneimine** and its salts, nitrosoamine, and 1-benzene-sulphonyl derivative (GABRIEL), 1909, A., i, 494.
- α-Phenylhexane**, ε-bromo- (v. BRAUN, DEUTSCH, and SCHMATLOCH), 1912, A., i, 434.
- ζ-nitro-** (v. BRAUN and KRUBER), 1912, A., i, 266.
- Phenylcyclohexane** (EYKMAN), 1904, A., i, 26.
- preparation of (SABATIER and MURAT), 1912, A., i, 547.
- Phenylcyclohexane**, 1-amino-, and its salts and nitro-derivatives (KURSANOFF), 1907, A., i, 599.
- 1:1-di-*p*-hydroxy- (SCHMIDLIN and LANG), 1910, A., i, 837.
- 1-Phenylcyclohexane-3:4-pyrazolone-5-acetic acid**, methyl ester (MEERWEIN), 1908, A., i, 546.
- 1-Phenylcyclohexan-1-ol** (KURSANOFF), 1907, A., i, 600.
- δ-Phenylhexan-β-one** and its oxime (KÖHLER), 1907, A., i, 1051.
- α-Phenylhexan-γ-one** (SENDERENS), 1911, A., i, 302.
- 1-Phenylcyclohexan-3-one-5-acetic acid** and its methyl ester, salts, and phenylhydrazone (MEERWEIN), 1908, A., i, 546.
- 1-Phenylcyclohexan-3-one-4-carboxylic-5-acetic acid**, methyl ester and its phenylhydrazone (MEERWEIN), 1908, A., i, 546.
- α-Phenyl-Δ<sup>β</sup>-hexene** and its optical behaviour (KLAGES), 1907, A., i, 500.
- α-Phenyl-Δ<sup>1</sup>-cyclohexene-1-acetonitrile** (HARDING and HAWORTH), 1910, T., 497.
- β-Phenyl-Δ<sup>γ</sup>-hexenoic acid**, β-hydroxy-, methyl ester (KÖHLER and HERITAGE), 1910, A., i, 484.
- ε-Phenyl-Δ<sup>δ</sup>-hexenoic acid**, β-iodo-γ-hydroxy- and β-iodo-α-γ-dihydroxy-, lactones of (BOUGAULT), 1908, A., i, 538.
- 5-Phenyl-Δ<sup>2</sup>-cyclohexenone**, 3:4-diaryl derivatives, and their oximes (GARNER), 1904, A., i, 253.
- Phenylhexenyl alcohol**. See γ-Phenyl-ββ-dimethyl-Δ<sup>γ</sup>-butenol.
- α-Phenyl-Δ<sup>α</sup>-hexinen-γ-ol** (BRACHIN), 1907, A., i, 129.
- γ-Phenylhexoic acid**, β-imino-α-cyano-, ethyl ester, formation and constitution of (ATKINSON and THORPE), 1906, T., 1926; P., 282.
- ε-Phenylhexoic acid** and its ethyl ester (v. BRAUN, DEUTSCH, and KRUBER), 1911, A., i, 969.
- ε-Phenylhexoic acid**, α-amino-, and α-bromo-, and derivatives (v. BRAUN and KRUBER), 1912, A., i, 265.
- Phenylhexoic acids**, β- and γ-, synthesis of (EYKMAN), 1908, A., i, 23.
- ε-Phenylhexonitrile** (v. BRAUN, DEUTSCH, and KRUBER), 1911, A., i, 969.
- ζ-Phenylhexyl alcohol** and its acetate (v. BRAUN, DEUTSCH, and KRUBER), 1911, A., i, 969.
- Phenylhexyl methyl ether** (v. BRAUN and DEUTSCH), 1912, A., i, 687.
- ζ-Phenylhexyl nitrite** (v. BRAUN and KRUBER), 1912, A., i, 266.
- ζ-Phenylhexylamine** and its derivatives (v. BRAUN, DEUTSCH, and KRUBER), 1911, A., i, 969.
- α-Phenyl-α-cyclohexylbutan-γ-one** (KÖHLER and BURNLEY), 1910, A., i, 392.
- Phenyl-isohexyl- and -diisohexyl-carbamides** (SABATIER and SENDERENS), 1905, A., i, 268.
- Phenylhexylcarbinol** and its derivatives (COLACICCHI), 1911, A., i, 199.
- Phenylcyclohexylcarbinol** and its methyl derivative (SABATIER and MAILHE), 1904, A., i, 810.
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- α-Phenyl-α-cyclohexylethane** (SABATIER and MURAT), 1912, A., i, 617.
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- α-Phenyl-α-cyclohexylpentan-γ-one** (KÖHLER and BURNLEY), 1910, A., i, 392.
- Phenylcyclohexylpropiophenone** (KÖHLER and BURNLEY), 1910, A., i, 392.
- 1-Phenyl-3-cyclohexyl-5-pyrazolone** (WAHL and MEYER), 1908, A., i, 891.
- 1-Phenyl-3-cyclohexyl-1:2:4-triazole**, 5-hydroxy-, and its acetate (RUPE and METZ), 1903, A., i, 536.
- 1-Phenyl-3-cyclohexyl-1:2:4-triazol-5-one-3-carboxylamide** (RUPE and METZ), 1903, A., i, 536.
- Phenylhistidine**, 2:4-dinitro- (ABERHÄLDEN and BLUMBERG), 1910, A., i, 371.
- Phenylhomocampholic acid**, hydroxy-, and its semicarbazone, formation of (HALLER and WEIMANN), 1907, A., i, 278.



- Phenylhomosalicylaldoxime** (PLANCHER and PICCININI), 1905, A., i, 705.
- Phenylhomosalicylic acid**, hydroxy- (CLEMMENSEN and HEITMAN), 1911, A., i, 543.
- $\gamma$ -Phenylhydantoic acid**, its ethyl ester, and the action of sodium ethoxide on the ester (BAILEY), 1903, A., i, 129.
- 3-Phenylhydantoin** and its bromo-, chloro-, and  $\gamma$ -alkyl compounds and the bromo-derivatives of the alkyl compounds (FRERICHS and BREUSTEDT), 1903, A., i, 16.
- 3-Phenylhydantoin**, 2-thio- (WHEELER and BRAUTLECHT), 1911, A., i, 501.
- 4-Phenylhydantoin**, action of bromine on, and its 4-amino- and methyl derivatives (GABRIEL), 1907, A., i, 90.
- 4-Phenylhydantoin**, 5-thio- (JOHNSON and CHERNOFF), 1912, A., i, 810.
- Phenyl- $\psi$ -hydantoin**. See Diphenylhydantil.
- 1-Phenylhydantoin-4-acetamide**, 2-thio- (BRAUTLECHT), 1911, A., i, 923.
- 1-Phenylhydantoin-4-acetic acid** and its ethyl ester and sodium salt (PAAL and ZITELMANN), 1904, A., i, 100.
- 1-Phenylhydantoin-4-acetic acid**, 2-thio- (BRAUTLECHT), 1911, A., i, 923.
- 1-Phenylhydantoin-4-glyoxylic acid**, 2-thio- (JOHNSON and BRAUTLECHT), 1911, A., i, 814.
- 1-Phenylhydantoin-4-propionic acid**, 2-thio- (BRAUTLECHT), 1911, A., i, 923.
- $\beta$ -Phenylhydracrylic acid**. See  $\beta$ -Phenylpropionic acid,  $\beta$ -hydroxy-.
- Phenylhydrazideoximecarboxylic acid** and its benzoyl derivative (WIELAND and GMELIN), 1909, A., i, 611.
- Phenylhydrazidimethylmalonic acid** and bromo-, methyl esters (PERKIN), 1903, T., 1225.
- 1-Phenylhydrazido-oxalamino-2:5-dimethylpyrrole-3:4-dicarboxylic acid**, ethyl ester (BÜLOW), 1904, A., i, 689.
- Phenylhydrazine**, melting point of (FISCHER), 1908, A., i, 105.
- the system: water and (BLANKSMA), 1910, A., ii, 594.
- catalytic decomposition of, by means of cuprous haloids (ARBUSOFF and TICHWINSKY), 1910, A., i, 776.
- oxidation of, by Caro's acid (CAIN), 1908, P., 76.
- and *p*-bromo-, oxidation of, by free oxygen (CHATTAWAY), 1907, T., 1326; P., 183.

- Phenylhydrazine**, reaction, modification of the (BÖESEKEN), 1910, A., ii, 1118.
- action of, on acetic, benzoic, and isovaleric esters (BAIDAKOWSKY and SLEPAKA), 1903, A., i, 441.
- velocities of reaction of acetone and lutidone with (SCHÖTTLE), 1911, A., ii, 1079.
- action of, on alkyl bromides and iodides (ALLAIN LECANU), 1903, A., i, 778; 1905, A., i, 375.
- and *p*-bromo-, action of benzyl chloride and *o*- and *p*-nitrobenzyl chlorides on (FLASCHNER), 1905, A., i, 936.
- action of boron trichloride on (ESCALES and KLING), 1903, A., i, 120.
- action of cyanogen haloids on (PELLIZZARI), 1907, A., i, 873; 1911, A., i, 338.
- action of, on dibromopyrotartaric acid (FICHTER, GUGGENHEIM, and BRASCH), 1908, A., i, 105.
- action of, on unsaturated disulphides (FROMM and SCHNEIDER), 1906, A., i, 714.
- action of, on ethyl benzoylacetate (KÜHLING), 1911, A., i, 87.
- condensation of, with ethyl 4-chloro-3-nitrobenzoate (WERNER and PETERS), 1906, A., i, 220.
- action of, on ethyl formylacetate (WISLICENUS and BYWATERS), 1907, A., i, 968.
- action of, on ethyl formylglutaconate (WISLICENUS and BREIT), 1907, A., i, 967.
- action of, on formaldehyde (ILJIN), 1909, A., i, 675.
- action of, on formic esters (BAIDAKOWSKY and REFORMATSKY), 1903, A., i, 441.
- action of, on gold (POZZI-ESCOT), 1907, A., ii, 403.
- action of halogens and hydrogen haloids on (LOCKEMANN and WEINIGER), 1908, A., i, 916.
- and  $\alpha$ -halogen aryl derivatives, reactions of (GOLDSCHMIEDT), 1909, A., i, 122.
- reaction of, with ketones (PETRENKO-KRITSCHENKO and ELTSCHANNOFF), 1903, A., i, 440.
- reactions of, with metallic cyanides and salts (STRUTHERS), 1903, P., 179.
- action of, on molybdates (POZZI-ESCOT), 1907, A., ii, 401.
- action of nitrous esters on, in alkaline solution (STOLLE), 1908, A., i, 917; (THIELE), 1908, A., i, 927.

**Phenylhydrazine**, action of, on the oxygen compounds of selenium and tellurium (GUTBIER), 1903, A., i, 120.

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**Phenylhydrazine**, *o*-bromo- (BUSCH and MEUSDÖRFFER), 1907, A., i, 349.

*N*-tribromo-, preparation and properties of (CHATTAWAY), 1909, T., 865 ; P., 120.

2:5-dichloro-, and its derivatives and sulphonie acid (NOELTING and KEPP), 1905, A., i, 872.

$\alpha$ -cyano-. See Phenylcyanamide, amino-.

*o*-cyano-, and its salts and acyl derivatives (GABRIEL), 1903, A., i, 445.

**Phenylhydrazide**, *tricyano-* (PELLIZARI), 1911, A., i, 338.

*p*-nitro-, as a micro-chemical reagent (BEHRENS), 1904, A., i, 98.

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*as*-diacetyl derivative of (FRIEDLÄNDER and CHWALA), 1907, A., i, 525.

2:4-dinitro-, action of hydrazine hydrate on (CURTIUS and MAYER), 1908, A., i, 53.

2:6-dinitro-, and its hydrochloride (BORSCHÉ and RANTSCHÉFF), 1911, A., i, 331.

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**Phenylhydrazines**, reduction of azobenzenes to, by ethyl alcohol (PONZIO), 1909, A., i, 852.

$\alpha$ -acylated, preparation of (WIDMANN), 1910, A., i, 777.

$\alpha$ -benzoylated, preparation of (LOCKEMANN), 1910, A., i, 636.

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**4-Phenylhydrazine-2:6-dimethylnicotinic acid** and anhydride and its methyl derivative (MICHAELIS and v. AREND), 1903, A., i, 292.

**Phenylhydrazineketone**-. See Ketophenylhydrazine-.

**Phenylhydrazine-*o*-sulphonic acid**, *p*-nitro-, and its sodium salt (GREEN and ROWE), 1912, T., 2448.

**Phenylhydrazinoacetic acids**, *s*- and *as*-, and their derivatives (BUSCH, SCHNEIDER, and WALTER), 1904, A., i, 97.

**Phenylhydrazinoacetic acids**, *s*- and *as*-, *p*-bromo- (BUSCH and MEUSDÖRFFER), 1907, A., i, 348.

*s*- $\beta$ -Phenylhydrazinobutyric acid (PRENTICE), 1904, T., 1667 ; P., 220.

$\beta$ -Phenylhydrazino- $\beta$ -cinnamylpropionic acid, phenylhydrazine salt and its dibromide (RIEDEL and SCHULZ), 1909, A., i, 582.

**4-Phenylhydrazinocoumarin** (*benzotetrone acid phenylhydrazide*) (ANSCHUTZ, ANSPACH, FRESENIUS, and CLAUS), 1909, A., i, 662.

**4-Phenylhydrazinocoumarin-3-carboxylic acid**, ethyl ester, and phenylhydrazide (ANSCHUTZ, ANSPACH, FRESENIUS, and CLAUS), 1909, A., i, 662.

**Phenylhydrazinodicarboxytricarballic acid**, methyl ester (RUHEMANN), 1907, T., 1363; P., 195.

**2-Phenylhydrazinodietylbarbituric acid**. See Diethylmalonylphenylaminoguanidine.

**4-Phenylhydrazino-1:3-dimethyl- $\Delta^1$ -cyclohexen-3-ol-6-one**, and its picrate and oxalate (BAMBERGER and REBER), 1907, A., i, 644.

**4-Phenylhydrazino-2:6-dimethylnicotinic acid**, ethyl ester, methiodide (MICHAELIS and KRIEDEMAYER), 1909, A., i, 531.

**$\epsilon$ -Phenylhydrazino- $\beta\delta$ -dihydroxy- $\alpha\gamma$ -diphenylpentane**,  $\epsilon$ -imino- and derivatives (SPÄTH), 1912, A., i, 979.

**3-Phenylhydrazino-2-methyldihydroquinazolinone**, 5-nitro-, phenylhydrazone of (BOGERT and SEIL), 1906, A., i, 713.

**Phenylhydrazino-oxalic hydrazide** and its acetyl and benzylidene derivatives (BÜLOW), 1904, A., i, 689.

**Phenylhydrazino-oximinoisooxazolinone** (WIELAND and GMELIN), 1909, A., i, 611.

**$\beta$ -Phenylhydrazino- $\beta$ -phenyl- $\alpha$ -lactic acids** and anhydrides, isomeric (ERLENMEYER and BARKOW), 1906, A., i, 237.

**5-Phenylhydrazino-1-phenyl-1:2:4-triazole**, 3-thiol- (FROMM and BAUMHAUER), 1908, A., i, 702.

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**Phenylhydrazodicarbonamide** (PELLIZZARI and ACCAME), 1911, A., i, 336.

**4-Phenylhydrazo-1:3-diphenyl-5-pyrazolinone** (WAHL), 1907, A., i, 362.

**Phenylhydrazoformaldoxime**, *o*-mono- and *p*-*o*-di-chloro- (BUSCH and WOLBRING), 1905, A., i, 494.

**Phenylhydrazone**,  $C_{18}H_{22}O_4N_2$ , of the pentose from inosine (LEVENE and JACOBS), 1909, A., i, 540.

**dinitro**,  $C_{25}H_{22}O_9N_8$ , from *p*-aminobenzenesulfonyl diazo-chloride (BÜLOW and HAAS), 1911, A., i, 339.

**Phenylhydrazones**, phototropy of certain (PADOA), 1909, A., i, 676. thermochemistry of (LANDRIEU), 1905, A., ii, 628.

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**Phenylhydrazones** of acylated *o*-hydroxyaldehydes, migration of acid residues in the (AUWERS and HANNEMANN), 1909, A., i, 439.

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**Phenylhydrazonocycanoacetic acid**, ethyl ester, and its acetyl derivatives (WEISSBACH), 1903, A., i, 541.

$\alpha$ - and  $\beta$ -modifications of (HANTZSCH and THOMPSON), 1905, A., i, 615.

**Phenylhydrazonemesoxalic acid** and *p*-bromo-, ethyl esters (HANTZSCH and THOMPSON), 1905, A., i, 615.

**Phenylhydrazonemesoxalylbishydrazonebenzeneazoacetoacetic acid**, ethyl ester (BÜLOW), 1908, A., i, 254.

**Phenylhydrazonoanisoylacetic acid**, and *p*-nitro-, and their methyl esters (WAHL and SILBERZWEIG), 1912, A., i, 214.

**$\alpha$ -Phenylhydrazonoazo-*o*-methoxybenzoylacetic acid**, and *p*-nitro-, methyl esters (WAHL and SILBERZWEIG), 1912, A., i, 213.

**Phenylhydrazono-*m*-methoxybenzoylacetic acid**, and *p*-nitro-, methyl esters (WAHL and SILBERZWEIG), 1912, A., i, 214.

**4-Phenylhydrazono-1-*p*-nitrophenyl-3-*o*-**, and *p*-methoxyphenyl-5-pyrazolones (WAHL and SILBERZWEIG), 1912, A., i, 214.

**4-Phenylhydrazono-1-phenyl-3-*o*-**, *-m*-, and *p*-methoxyphenyl-5-pyrazolones, and 4-*p*-nitro- (WAHL and SILBERZWEIG), 1912, A., i, 214.

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**3-Phenyl-1-hydrindone-2-propionic acid**, 3-hydroxy-, lactone of (STOBBE and GOLLÜCKE), 1906, A., i, 361.

**Phenylhydrazinoaminomethylenecarboxylic acid** and its ethyl ester, and *p*-chloro-, and amide (BOWACK and LAPWORTH), 1905, T., 1864.

**Phenylhydrazinoalogenmethylene-carboxylic acids** and their bromo-, chloro-, and nitro-derivatives, ethyl esters (BOWACK and LAPWORTH), 1905, T., 1857.

**1-Phenylhydrocotarnine** (FREUND and REITZ), 1906, A., i, 601.

**$\alpha$ -Phenylhydrohydrastinine** (FREUND and LEDERER), 1911, A., i, 907.

**9-Phenyl-1:2:2':1'-hydronaphthacridine** and its salts (ULLMANN, FETVADJIAN, and RACOVITZA), 1903, A., i, 521.

**Phenyl- $\Delta^1$ -hydrophthalamic acid** and *p*-hydroxy- (PIUTTI and ABATI), 1903, A., i, 424.

**Phenylhydrotic acid**, synthesis of (EYKMAN), 1908, A., i, 795.

**5-Phenylhydrotriazine**, 3-thio-, and the disulphide (WOLFF and LINDENHAYN), 1904, A., i, 198.

**Phenylhydroxyacetylalanine** (FISCHER and SCHMIDLIN), 1905, A., i, 694.

**1-Phenyl-4-*p*-hydroxybenzylhydantoin** (PAAL and ZITELMANN), 1904, A., i, 100.

**1-Phenyl-4-*p*-hydroxybenzylhydantoin**, 2-thio- (BRAUTLECHT), 1911, A., i, 923.

**3-Phenyl-4-*op*- and -*mp*-dihydroxybenzylideneisooxazolones** (MEYER), 1912, A., i, 1019.

**Phenyl hydroxy-*tert*-.butyl ketone** and its derivatives (BLAISE and HERMAN), 1911, A., i, 880.

**$\alpha$ -Phenyl-*o*-hydroxycinnamionitrile** (BORSCHÉ and STREITBERGER), 1904, A., i, 893.

**Phenyl-*di*-*p*-hydroxydi-*p*-xylylmethane** and its diacetate (SCHULTZ and PETENY), 1907, A., i, 1075.

**Phenyl  $\alpha$ -hydroxyethyl ketone**, *p*-bromo-, and its acetyl derivative (KÖHLER), 1909, A., i, 394.

**Phenylhydroxyglyoxime peroxide** (WIELAND), 1903, A., i, 770.

**$\delta$ -Phenylhydroxyhydrazone- $\alpha\alpha$ -dimethylpropionylacetic acid**,  $\gamma$ -oximino-. See Anilinoglyoximedimethylmalonylic acid.

**Phenylhydroxylamine**, behaviour of, towards hydroxylamine and air (BAMBERGER), 1903, A., i, 84.  
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**Phenylhydroxylamine**, *p*-chloro- (BAMBERGER and BAUDISCH), 1909, A., i, 978.

*p*-hydroxy-, methyl and ethyl ethers of. See *p*-Anisylhydroxylamine and *p*-Phenetylhydroxylamine.

*m*-nitro- (BRAND), 1906, A., i, 80.

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**$\beta$ -Phenylhydroxylamine**, compounds of, with aromatic aldehydes (PLANCHER and PICCININI), 1905, A., i, 705.

**$\beta$ -Phenylhydroxylamine**,  $\beta$ -cyano-, and its iminochloride hydrochloride (WIELAND, ROSEEU, and GAMBARJAN), 1912, A., i, 907.

**Phenyl 3-hydroxy-4-methoxystyryl ketone**, 2:4:6-*tri*hydroxy-. See Hesperitin.

**Phenyl 4-hydroxy-3-methoxystyryl ketone**, 2:4:6-*tri*hydroxy-. See Homo-eriodictyol.

**$\gamma$ -Phenyl- $\alpha$ -hydroxymethylhydantoin** (LEUCHS and GEIGER), 1906, A., i, 806.

**1-Phenyl-3-hydroxymethyl-5-pyrazolone**, *p*-nitro- (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1910, A., i, 340.

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**Phenyl 2-hydroxynaphthyl ketone**, 2:4-dihydroxy-, and 2:3:4-*tri*hydroxy- (DUTTA and WATSON), 1912, T., 1242; P., 107.

**Phenyl- $\alpha$ -hydroxynaphthylmethane**, *p*-amino-, and its acetyl derivative (FRIEDLÄNDER and v. HORVATH), 1903, A., i, 253.

**Phenyl-8-hydroxynaphthyl-1:2-triazole-3:6-disulphonic acid**, *p*-amino-, sodium hydrogen salt (GESELLSCHAFT FÜR CHEMISCHE INDUSTRIE IN BASEL), 1904, A., i, 353.

**3-Phenyl-2-*o*-hydroxyphenyl-3:4-dihydro-1:3-benzoxazine**, 4-cyano-, derivatives of (ROHDE and SCHÄTEL), 1910, A., i, 775.

**$\alpha$ -Phenyl- $\alpha'$ -4-hydroxyphenylethane**, resolution of, by *l*-menthylcarbimide (PICKARD and LITTLEBURY), 1906, T., 467; P., 71.

1-Phenyl-5-*o*-hydroxyphenyl-3-ethyl- and 3-propyl-pyrazoline (AUWERS and VOSS), 1910, A., i, 71.

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1-Phenyl-5-*o*-hydroxyphenyl-3-methyl-pyrazoline and its benzoates (AUWERS and MÜLLER), 1909, A., i, 59.

5-Phenyl-2-*p*-hydroxyphenyloxazole (LISTER and ROBINSON), 1912, T., 1313.

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3-Phenyl-2-*o*-hydroxystyryl-4-dihydro-quinazolone (BOGERT and BEAL), 1912, A., i, 394.

Phenyl 2-hydroxystyryl ketone, 2:4-*di*-hydroxy- (DUTTA and WATSON), 1912, T., 1242.

Phenyl 3:4-*di*hydroxystyryl ketone, 2:4:6-*tri*hydroxy-. See Eriodictyol.

*α*-Phenyl-*α*-*p*-hydroxytolylethylene and its sodium derivative and phenylurethane (STOERMER and KIPPE), 1904, A., i, 182.

Phenyl-*m*-hydroxytolylethylene (STOERMER and DECKER), 1911, A., i, 665.

Phenyl 2-hydroxy-*m*-tolyl ketone, phenylhydrazone, and its *O*-acetate, diacetate, and *N*-acetyl derivative (?) (AUWERS and DANNEHL), 1909, A., i, 441.

Phenyl 6-hydroxy-*m*-tolyl ketone, and its ethyl ether, and 4-nitro- (AUWERS), 1904, A., i, 66.

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Phenyliminoacetamide (FORSTER and MÜLLER), 1910, T., 140.

*o*-Phenyliminobenzoquinonediphenylhydrazone, and *p*-hydroxy-, hydrochlorides (WIELAND and WECKER), 1911, A., i, 82.

*β*-Phenyliminobenzoyldihydrocarvone and its cyanohydrin (CLARKE and LAPWORTH), 1907, T., 699; P., 90.

Phenylimino-*di*- and -*tri*-bromo-benzoquinones, 2:4:6-*tribromo*- (SMITH and ORTON), 1907, T., 150; P., 14.

Phenyliminocamphor and *m*- and *p*-hydroxy-, and *p*-chloro- (FORSTER and THORNLEY), 1909, T., 949.

*α*- and *β*-oximes, and their derivatives (FORSTER and SPINNER), 1912, T., 1345; P., 46.

Phenylimino-2:3:6-*trichlorobenzoquinone*, *s-trichloro*- (ORTON and SMITH), 1905, T., 390; P., 92.

*C*-Phenyliminodiacetic acid and its derivatives (STADNIKOFF), 1909, A., i, 106.

2-Phenyliminodiethylbarbituric acid. See Diethylmalonylphenylguanidine.

2-Phenylimino-2:3-dihydro-1:3:4-thio-diazole-3-propionic acid, 5-hydroxy-, and its ethyl ester, amide, and benzoyl derivative (BAILEY, ACREE, and MILLER), 1904, A., i, 827.

2-Phenylimino-5:5-dimethylbarbituric acid. See Dimethylmalonylphenylguanidine.

2-Phenylimino-3:4-dimethyl-2:3-dihydrothiazole and its platinichloride and hydrolysis (YOUNG and CROOKES), 1905, P., 308; 1906, T., 65.

Phenyliminodiphenylacetic acid, ethyl and methyl esters (STOLLÉ and SCHMIDT), 1912, A., i, 981.

2-Phenylimino-3:4-diphenyl-2:3-thiazoline and its salts and picrate (V. WALTHER and GREIFENHAGEN), 1907, A., i, 349.

Phenylimino-*α*-ethoxynaphthyl-4-ethoxynaphthatriazine (BUSCH and BERGMANN), 1905, A., i, 310.

2-Phenylimino-5-ethyl- and -5-phenyl-tetrahydrothiazoles (KOLSHORN), 1904, A., i, 675.

2-Phenyliminohexahydro-6-pyrimidone, 4-imino-, and its 5:5-diethyl derivative (MERCK), 1907, A., i, 1039.

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Phenyliminomalic acid, methyl ester (CURTIS and SPENCER), 1909, A., i, 764.

reactions of, and its compound with ethyl alcohol (CURTIS and SPENCER), 1911, A., i, 540.

3-Phenylimino-1-methyl- $\Delta^{3:5}$ -hexadien-5-ol, *m*-amino- (HAAS), 1906, T., 577.

2-Phenylimino-5-methyltetrahydrothiazole (YOUNG and CROOKES), 1905, P., 308; 1906, T., 68.

2:5-Phenylimino-1-*β*-naphthyl-2:3-dimethylpyrazole (1-*β*-naphthylamilo-pyrine) and its derivatives (MICHAELIS and DANZFUSS), 1905, A., i, 481.

- Phenyliminophenylamino-**. See Anilino-phenylimino-.
- Phenyliminophenyl-naphthatriazine**, -bromonaphthatriazine, -4-ethoxynaphthatriazine, and -4-ethoxydihydronaphthatriazine (BUSCH and BERGMANN), 1905, A., i, 310.
- 4-Phenylimino-3-phenylquinazoline-2-carboxylic acid**, ethyl ester (BOGERT and GORTNER), 1910, A., i, 284.
- Phenyliminophosphorylbenzamide** (TITHERLEY and WORRALL), 1909, T., 1152; P., 150.
- Phenyliminophosphorylphenylbenzamidine** (TITHERLEY and WORRALL), 1909, T., 1154; P., 150.
- Phenyliminoquinone**. See Benzoquinone-anil.
- Phenyliminotolyltolutriazine**, *m*-nitro- (BUSCH and BERGMANN), 1905, A., i, 309.
- 2-Phenylindazole** from benzene-*o*-azobenzyl alcohol (FREUNDLER), 1903, A., i, 585.
- 2-Phenylindazole**, 3:5:7-trichloro- (FREUNDLER), 1911, A., i, 815.
- chloro-3-hydroxy- (FREUNDLER), 1906, A., i, 544.
- 5:7-dichloro-3-hydroxy-2-*p*-chloro- (FREUNDLER), 1911, A., i, 753.
- 2:5:7-trichloro-3-hydroxy- (FREUNDLER), 1911, A., i, 577.
- 3-hydroxy-, and its chloro-derivatives (FREUNDLER), 1907, A., i, 158.
- 1-Phenyl-1-indenol**, 2:3-dibromo-, and its acetyl derivative (SIMONIS and KIRSCHTEN), 1912, A., i, 271.
- 1-Phenyl-4:5-indenopyrazole-3-carboxylic acid** and its ethyl ester and silver salt (RUHEMANN), 1912, T., 1736; P., 224.
- 6-Phenyl-2:3-indeno-4-pyrone** and its platinichloride (RUHEMANN), 1912, T., 1738; P., 225.
- Phenylindole**, additive compounds of, with trinitrotoluene and picryl chloride (CIUSA and VECCHIOTTI), 1912, A., i, 756.
- 2-Phenylindole**, *o*-amino-, and its pierate (KLEGLAND HAAS), 1911, A., i, 433.
- 3-amino-, 1-hydroxy-, and 3-isonitroso- (ANGELI and ANGELICO), 1904, A., i, 526.
- 6-amino-, and its hydrochloride (BORSCHKE), 1909, A., i, 233.
- 3-imino- (KALB and BAYER), 1912, A., i, 726.
- 3-nitroso-, ethyl ether of (CASTELLANA and D'ANGELO), 1905, A., i, 940.
- 3-nitroso-1-hydroxy-, and its acyl and ethyl derivatives (ANGELI and ANGELICO), 1907, A., i, 153.
- 2-Phenylindole diazohydroxide**, anhydride of (ANGELI and D'ANGELO), 1904, A., i, 537.
- 3-Phenylisoidolinone**, 3-hydroxy- (BÉIS), 1904, A., i, 671.
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- s*-Phenylmethoxymethylthiocarbamide** (JOHNSON and GUEST), 1910, A., i, 730.
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- Phenyl- $\beta$ -methoxynaphthyl-ketone-sulphonic acid**, 2-amino- (ULLMANN and DENZLER), 1907, A., i, 143.
- Phenyl  $\delta$ -*p*-methoxyphenylbutadiene ketone** (SCHOLTZ and WIEDEMANN), 1903, A., i, 437.
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- 2-Phenyl-4-*p*-methoxyphenyl-7-methyl-5:6:7:8-tetrahydroquinoline** and its salts (CRUIKSHANKS and SCHWYZER), 1912, A., i, 785.
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thiocyanate (HANTZSCH), 1911, A., i, 675.

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platinibromide (GUTBIER, BAURIEDEL, and OBERMAIER), 1911, A., i, 33.

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- $\alpha$ -Phenyl- $\beta$ -methylbutyl alcohol and its acetate (BLAISE and COURTOT), 1906, A., i, 795.
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- $\alpha$ -Phenyl- $\beta$ -methylbutyric acid (BODROUX and TABOURY), 1910, A., i, 557.
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- β*-Phenyl-*α*-methylcoumarin (STOERMER and FRIDERICI), 1908, A., i, 181.
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- Phenylmethylcyanoacetiminoethyl ether (HESSLER), 1904, A., i, 831.
- Phenylmethylcyanomethylethylammonium iodide (v. BRAUN), 1908, A., i, 628.
- 4-Phenyl-6-methyl-2:3:7:0-diazpyridazine. See 7-Phenyl-5-methyl-1:2:4:9-benzotetrazole.
- α*-Phenylmethyl-diethylbetaine (KLAGES and MARGOLINSKY), 1904, A., i, 146.
- Phenylmethylidiguanide (COHN), 1911, A., i, 929.
- 5-Phenyl-3-methyldihydroacridine, 8-hydroxy- (POPE and HOWARD), 1910, T., 83.
- 5-Phenyl-10-methyldihydroacridine, *di*-bromocyano- (KAUFMANN, WIDMER, and ALBERTINI), 1911, A., i, 749.
- 5-cyano-, platinichloride (KAUFMANN, ALBERTINI, and HOLSBOER), 1909, A., i, 606.
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- 5-Phenyl-10-methyldihydroacridine-*o*-carboxylic acid, 5-amino-, lactams of (DECKER and SCHENK), 1906, A., i, 305.
- 5-hydroxy-, lactone of, and its betaine compound (DECKER and HOCK), 1904, A., i, 451.
- 5-Phenyl-10-methyldihydroacridinol, 3:7-*di*bromo-, ethylether (KAUFMANN, WIDMER, and ALBERTINI), 1911, A., i, 749.
- 9-Phenyl-10-methyldihydroanthracene, 9:10-*di*hydroxy- (GUYOT and STAHLING), 1906, A., i, 18.
- 5-Phenyl-2-methyl-4:5-dihydro-1:2:4-oxadiazole and its 4-acetyl and 4-benzoyl derivatives (STOLLÉ), 1904, A., i, 102.
- 5-Phenyl-2-methyl-4:5-dihydro-1:3:4-oxadiazole and its 4-acetyl and 4-benzoyl derivatives (STOLLÉ and MÜNCH), 1905, A., i, 95.
- 2-Phenyl-5-methyl-4:5-dihydro-oxazole, *o*-hydroxy-, and its additive salts (DIELS and BECCARD), 1907, A., i, 57.
- 2-Phenyl-2-methyldihydroperimidine (SACHS), 1909, A., i, 433.
- N*-Phenyl-*α*-methyldihydrophenanthra-phenazine (FREUND and RICHARD), 1909, A., i, 418.
- 6-Phenyl-3-methyldihydropyrazoquinazalone (MICHAELIS, KRUG, LEO, and ZIESEI), 1910, A., i, 514.
- 5-Phenyl-2-methyl- $\Delta^{2:5}$ -dihydropyridazine-1-carbon-amide- and anilide-3-carboxylic acids and their ethyl esters (BORSCHKE and SPANNAGEL), 1904, A., i, 779.
- 6-Phenyl-3-methyl-4:5-dihydropyridazine-4-carboxylic acid, ethyl ester (BÜLOW and FILCHNER), 1908, A., i, 579.

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- 2-Phenyl-5-methyl-1:2-dihydropyridone, 3-hydroxy- (BLAND and THORPE), 1912, T., 868.
- 1-Phenyl-2-methyl-4:5-dihydropyrrole salts (MARKWALDER), 1907, A., i, 637.
- 3-Phenyl-2-methyl-3:4-dihydroquinazoline, 6-*p*-dinitro-, and its salts and sulphoacetate (STILLICH), 1903, A., i, 864.  
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- 2-Phenyl-1-methyldihydroquinoline and its 3-(or 4-)bromo-, methobromide of (FREUND and SPEYER), 1905, A., i, 156.
- 1-Phenyl-2-methyl-1:2-dihydroisoquinoline and its platinichloride (FREUND and BODE), 1909, A., i, 516.
- 4-Phenyl-5-methyldihydro-3-thiouracil (POSNER and STIRNUS), 1912, A., i, 456.
- 1-Phenyl-2-methyl-2:3-dihydro-1:2:4-triazoles, 3- and 5-, 5- and 3-aminothiol- (FROMM and SCHNEIDER), 1906, A., i, 715.
- 4-Phenyl-4- and -5-methyldihydrouracils (POSNER and STIRNUS), 1912, A., i, 456.
- p*-Phenylmethyldi-*o*-hydroxybenzil-*os*azone and its tetra-acetyl derivative and labile isomeride (BILTZ and SIEDEN), 1903, A., i, 121.
- Phenyl methyl diketone (*benzoylacetyl*) and its dioxime (BORSCHKE), 1907, A., i, 326.  
refraction of (SMEDLEY), 1909, T., 218; P., 17.
- Phenyl methyl diketone, *p*-bromo-, and its phenylhydrazone and dioxime (KÖHLER), 1909, A., i, 394.
- Phenylmethyldiketone*mono*-acetylhydrazone and -semicarbazone (DIELS and VOM DORF), 1903, A., i, 862.
- Phenylmethyldimethylaminomethylcarbinol and its benzoate (FOURNEAU), 1904, A., i, 378.
- Phenylmethyldi-methyl- and -ethylaminomethylcarbinols (TIFFENEAU), 1907, A., i, 305.
- 3-Phenyl-1-methyldioxindole, methyl ether (KOHN and OSTERSETZER), 1912, A., i, 51.
- 2-Phenyl-4-methylene-1:4-benzopyran, 7-*op*-trihydroxy-. See Resacetin.
- 2-Phenyl-4-methylene-1:4-benzopyranol, 7-*op*-trihydroxy- (BÜLOW), 1903, A., i, 357.  
synthesis of, and its diethyl ether and its additive salts, 8-nitroso-, and triacetate (BÜLOW and SAUTERMEISTER), 1904, A., i, 262.  
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- 3-Phenyl-5-methylenedioxybenzylidenephosphoric acid (ANDREASCH and ZIPSER), 1903, A., i, 856.
- $\alpha$ -Phenyl-3:4-methylenedioxybenzylidenephosphoric acid (BODROUX), 1911, A., i, 783.
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- 1-Phenyl-3-*mp*-methylenedioxyphenyl-7-methyloctahydroindenes, 1:9-*di*-hydroxy- (STRIEGLER), 1912, A., i, 784.
- 6-Phenyl-4-*p*-methylenedioxyphenyl-2-methylpyridine, 3-cyano- (v. MEYER and IRMSCHER), 1908, A., i, 911.
- 2-Phenyl-4-*mp*-methylenedioxyphenyl-7-methyl-5:6:7:8-tetrahydroquinoline and its picrate (STRIEGLER), 1912, A., i, 784.
- $\beta$ -Phenyl- $\beta$ -3:4-methylenedioxyphenylpropionic acid and its salts (FOSSE), 1907, A., i, 136.
- 6-Phenyl-4-methylenedioxyphenyl-2-*p*-tolylpyridine, 3-cyano- (v. MEYER and IRMSCHER), 1908, A., i, 912.
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- Phenylmethyl-ethyl-, -*n*- and -*isopropyl*-, -*isobutyl*-, and -*isocamyl*-allyl ammonium salts, *p*-bromo-, effect of constitution on the rotatory power of (JONES and HILL), 1908, T., 295; P., 28.
- Phenylmethyl-ethyl- and -*isopropyl*-allyl ammonium iodides (HILL), 1907, A., i, 692.



- dl*-2-Phenyl-6-methyl-1-ethyl-1-allyl-piperidinium iodide and other salts (SCHOLTZ), 1910, A., i, 634.
- Phenylmethylethylammonium salts, hydroxy-, optically active (MEISENHEIMER), 1909, A., i, 20.
- d*-tartrate, hydroxy- (MEISENHEIMER), 1912, A., i, 25.
- 1-Phenyl-2-methyl-3-ethylbenzimin-azolium hydroxide, 4:7-dinitro-6-hydroxy-, and its salts (MELDOLA and KUNTZEN), 1911, T., 1297.
- 1-Phenyl-2-methyl-3-ethylbenzimin-azolol, 4:7-dinitro-6-hydroxy- (MELDOLA and KUNTZEN), 1911, T., 1299.
- 1-Phenyl-3-methyl-2-ethyl-2-benzimin-azolol, 4:7-dinitro-6-hydroxy- (MELDOLA and KUNTZEN), 1911, T., 2042.
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- 1-Phenyl-3-methyl-2-ethyl-6-benzimin-azolone, 4:7-dinitro- (MELDOLA and KUNTZEN), 1911, T., 2041.
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- Phenylmethylethylcarbinol and its chloride (KLAGES and HAHN), 1903, A., i, 19.
- Phenylmethylethyldihydroacridine (FREUND and SPEYER), 1905, A., i, 157.
- 2-Phenyl-5-methyl-6-ethyl-1:2-dihydro-pyridone, 3-hydroxy- (BLAND and THORPE), 1912, T., 1570.
- s*-Phenylmethylethylene. See  $\alpha$ -Phenyl-propylene.
- Phenylmethylethylene oxide and its conversion into hydratropaldehyde (KLAGES; TIFFENEAU), 1905, A., i, 523.
- Phenylmethylethyl-(ethylanilinoethyl)-ammonium iodide (WEDEKIND and MEYER), 1909, A., i, 186.
- Phenylmethylethylmethane, *di-p*-hydroxy-, and its diacyl derivatives, and the action of bromine on (ZINCKE and GOLDEMANN), 1908, A., i, 780.
- Phenylmethylethylmorpholonedimethyl-ammonium bromide and hydroxide (FOURNEAU), 1909, A., i, 50.
- Phenylmethylethylphosphine oxide (MEISENHEIMER and LICHTENSTADT), 1911, A., i, 344.
- 2-Phenyl-6-methyl-1-ethylpiperidines, *d*- and *l*- (SCHOLTZ and WASSERMANN), 1907, A., i, 341.
- Phenylmethylethylpropylsilicane, preparation of (KIPPING), 1907, T., 221.
- 1-Phenyl-3-methyl-2-ethylpyrazole, 2:5-thio-. See Ethylthiopyrine.
- 1-Phenyl-3-methyl-4-ethylpyrazole and its salts (STOERMER and MARTINSEN), 1907, A., i, 446.
- 1-Phenyl-5-methyl-4-ethylpyrazole, 3-chloro-, and 3-iodo-, methiodide of (MICHAELIS and DREWS), 1907, A., i, 158.
- 1-Phenyl-3-methyl-2-ethylpyrazolone (*homoeantipyrene*), thio-derivatives of (v. KONEK-NORWALL), 1911, A., i, 505.
- 1-Phenyl-4-methyl-3-ethylpyrazolone (EMMERLING and KRISTELLER), 1906, A., i, 623.
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- 1-Phenyl-3-methyl-4-ethyl-5-pyrazolone, *p*-nitro- (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1910, A., i, 340.
- Phenylmethylethylsilicol (KIPPING and HACKFORD), 1911, T., 141; P., 9.
- 1-Phenyl-2-methyl-4-ethylurazole (ACREE), 1907, A., i, 798; (NIRDLINGER, ACREE, and HEAPS), 1910, A., i, 342.
- 1-Phenyl-4-methyl-2-ethylurazole (BRUNEL and ACREE), 1910, A., i, 521.
- 9-Phenyl-2-methylfluorone (POPE and HOWARD), 1910, T., 1026.
- 2-Phenyl-5-methylfuran (BORSCHÉ and FELS), 1906, A., i, 509.
- $\beta$ -Phenyl- $\alpha$ -methylglycidic acid, ethyl ester (DARZENS), 1906, A., i, 137.
- $\beta$ -Phenyl- $\beta$ -methylglycidic acid and its esters, amides, and salts (CLAISEN), 1905, A., i, 287.
- d*- $\beta$ -Phenyl- $\beta$ -methylglycidic acid, sodium salt (WOOTTON), 1910, T., 409; P., 44.
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- Phenylmethylglycollic acid. See  $\alpha$ -Phenylpropionic acid,  $\alpha$ -hydroxy-.
- Phenylmethylglyoxime *peroxide* (BORSCHÉ), 1907, A., i, 326.
- Phenylmethylglyoxime, 4:4-dihydroxy-, preparation of (CHEMISCHE FABRIK AUF AKTIEN VORM. E. SCHERING), 1908, A., i, 657.
- $\alpha$ -Phenyl- $\zeta$ -methyl- $\Delta^{\alpha\gamma}$ -heptadiene and its optical behaviour (KLAGES), 1907, A., i, 500.

- $\gamma$ -Phenyl- $\zeta$ -methylheptan- $\epsilon$ -one and its oxime (KÖHLER), 1907, A., i, 1052.
- $\alpha$ -Phenyl- $\epsilon$ -methyl- $\Delta\gamma$ -hexadiene and its optical behaviour (KLAGES), 1907, A., i, 500.
- 3-Phenyl-1-methylcyclohexane (KURSA-NOFF), 1907, A., i, 600.
- 3-Phenyl-1-methylcyclohexan-3-ol and its phenylurethane (MAILHE and MURAT), 1911, A., i, 127.
- 4-Phenyl-1-methylcyclohexan-4-ol and its phenylcarbamate (SABATIER and MAILHE), 1906, A., i, 254.
- $\alpha$ -Phenyl- $\epsilon$ -methylhexan- $\gamma$ -one (SENDE-RENS), 1911, A., i, 303.
- 2-Phenyl-4-methylcyclohexan-6-onedi-carboxylic acid, *m*-nitro-4-hydroxy-, esters of the tautomeric forms of (RABE and BILLMANN), 1904, A., i, 750.
- $\beta$ -Phenyl- $\beta$ -4-methylcyclohexan-2-onyl-propiophenone and its derivatives (ROSENBERG), 1912, A., i, 782.
- 3-Phenyl-1-methylcyclohexene (MAILHE and MURAT), 1911, A., i, 127.
- 2-Phenyl-1-methyl- $\Delta^2$ -cyclohexene (MURAT), 1909, A., i, 147.
- $\alpha$ -Phenyl-1-methyl- $\Delta^3$ -cyclohexene-4-acetonitrile (HARDING and HAWORTH), 1910, T., 493.
- 3-Phenyl-1-methyl- $\Delta^6$ -cyclohexen-5-one-2-carboxylic acid, ethyl ester, and its semicarbazone (RABE and SPENCE), 1906, A., i, 89.
- 6-Phenyl-2-methyl- $\Delta^1$ - and - $\Delta^2$ -cyclohexen-4-one-1-carboxylic acids, methyl esters, and their derivatives (DIECKMANN), 1912, A., i, 856.
- $\alpha$ -Phenyl- $\epsilon$ -methyl- $\Delta$ -hexinen- $\gamma$ -ol (BRACHIN), 1907, A., i, 129.
- $\zeta$ -Phenyl- $\beta$ -methylhexyl alcohol (v. BRAUN, DEUTSCH, and SCHMATLOCH), 1912, A., i, 434.
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- s-Phenylmethylhydrazine and its oxalate (KNORR), 1906, A., i, 893.  
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thiocyanoacetate (FRERICHS and FORSTER), 1910, A., i, 192.
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- s-C-Phenyl-C-methyliminodiacetic acid and its hydrochloride, nitrile hydrochloride, and diethyl ester (STADNI-KOFF), 1909, A., i, 106.
- 2-Phenyl-3-methylisoindolinone, 3-hydroxy- (BÉIS), 1906, A., i, 884.
- Phenylmethylitaconic acid, ethyl and methyl esters (STOBBE and ROSE), 1911, A., i, 375.
- Phenylmethylisoitaconic acid, ethyl ester, preparation of (STOBBE and GADEMANN), 1911, A., i, 375.
- Phenylmethylitaconic acids, isomeric, configuration of the (STOBBE and ROSE), 1904, A., i, 503.
- Phenylmethylketazine, *m*-amino-, and *m*-nitro- (KNÖFFER), 1909, A., i, 188.
- Phenylmethylketen and its derivatives (STAUDINGER and RUŽIČKA), 1911, A., i, 462.
- Phenylmethylketenquinoline (STAUDINGER and RUŽIČKA), 1911, A., i, 464.
- 3-Phenyl-6-methylkynurine and its O-methyl and -ethyl ethers (MEYER), 1907, A., i, 241.
- Phenylmethylmalononitrile (HESSLER), 1908, A., i, 182.
- Phenylmethylmalonyl chloride (STAUDINGER and RUŽIČKA), 1911, A., i, 462.
- Phenyl methyl mercaptole, *p*-amino-, and its acetyl derivative (AKTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION), 1912, A., i, 183.  
and its salts and acetyl and halogen derivatives (ZINCKE and JORG), 1909, A., i, 790.
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- 1-Phenyl-3-methyl-5-methylthiolpyrazole. See  $\psi$ -Thiopyrine.

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- 5-Phenyl-2-methylnaphthaphenazonium ferrichloride, and 6-amino-, and 3:6-diamino-, salts and derivatives of (ORLOFF), 1910, A., i, 783.
- 2-Phenyl-3-methyl- $\beta$ -naphthaquinoline and its nitrate (BORSCHKE), 1909, A., i, 956.
- 2-Phenyl-3-methyl- $\beta$ -naphthaquinoline-1-carboxylic acid (BORSCHKE), 1909, A., i, 956.
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- 2:4:6-*tri*-nitro- (JAEGER), 1906, A., i, 15.  
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- Phenylmethylnitrosooxazole (WIELAND), 1904, A., i, 56.
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*m*-chloro- (FISCHER and NEBER), 1912, A., i, 438.
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- 2-Phenyl-5-methyl-1:3:4-oxadiazole and its derivatives (STOLLÉ, MAMPEL, HOLZAPFEL, and LEVERKUS), 1912, A., i, 226.
- Phenylmethyloxamic acid, methyl ester (LANDER), 1904, T., 989; P., 132.
- 2-Phenyl-5-methyloxazole and its derivatives (GABRIEL), 1910, A., i, 432.
- 5-Phenyl-2-methyloxazole and its chromate (GABRIEL), 1910, A., i, 431.
- 5-Phenyl-3-methylisooxazole (MOUREU and BRACHIN), 1904, A., i, 95.
- 3-Phenyl-5-methylisooxazole (CLAISEN), 1907, A., i, 941.
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- 5-Phenyl-3-methylisooxazole-4-azobenzene-*p*-4'-azo-1'-phenyl-3'-methyl-5'-pyrazolone (BÜLOW and BUSSE), 1906 A., i, 718.
- 3-Phenyl-5-methylisooxazole-4-carboxylic acid and its ethyl ester (BENARY), 1909, A., i, 890.
- Phenylmethylisooxazolone (HALLER and BAUER), 1911, A., i, 568.
- $\alpha$ -Phenyl- $\beta$ -methyl- $\Delta\gamma$ -pentadiene (BJELOUSS), 1912, A., i, 230.
- 3-Phenyl-1-methylcyclopentadiene (BORSCHKE and MENZ), 1908, A., i, 149.
- as*-Phenylmethylpentamethylenediamine (V. BRAUN), 1910, A., i, 820.
- $\alpha$ -Phenyl- $\beta$ -methylpentane (BJELOUSS), 1912, A., i, 230.
- $\beta$ -Phenyl- $\beta$ -methylpentane (SCHREINER), 1910, A., i, 661.
- $\alpha$ -Phenyl- $\gamma$ -methylpentane. See Hexylbenzene.
- $\gamma$ -Phenyl- $\gamma$ -methylpentane (SCHREINER), 1910, A., i, 661.
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- $\alpha$ -Phenyl- $\beta$ -methylpentane- $\alpha\gamma$ -diol and its diacetate (FRANKE, KOHN, and ZWIAUER), 1907, A., i, 172.
- $\beta$ -Phenyl- $\gamma$ -methylpentan- $\beta$ -ol (BODROUX and TABOURY), 1909, A., i, 546.
- $\alpha$ -Phenyl- $\delta$ -methylpentan- $\beta$ -one and its phenylhydrazone and semicarbazone (SENDERENS), 1910, A., i, 489.
- $\alpha$ -Phenyl- $\delta$ -methylpentan- $\gamma$ -one and its semicarbazone (SENDERENS), 1911, A., i, 303.
- $\alpha$ -Phenyl- $\gamma$ -methyl- $\Delta\alpha$ -pentene. See Methylpentenylbenzene.
- $\alpha$ -Phenyl- $\gamma$ -methyl- $\Delta\beta$ -pentene and its nitroschloride (KLAGES), 1904, A., i, 569.  
and its nitrosylchloride and - $\Delta\alpha\gamma$ -pentadiene (KLAGES, GIESER, and LAUCK), 1906, A., i, 662.
- $\alpha$ -Phenyl- $\gamma$ -methyl- $\Delta\alpha$ -penten- $\gamma$ -ol (KLAGES, GIESER, and LAUCK), 1906, A., i, 662.
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- 7-Phenyl-9-methylpheno- $\alpha\beta$ -naphthacridine, 10-hydroxy-, and its hydrochloride (ULLMANN and FITZENKAM), 1906, A., i, 45.
- 12-Phenyl-10-methylpheno- $\alpha\beta$ -naphthacridine, 9- and *p*-diamino-, and their acetyl derivatives and their salts (ULLMANN and GREYER), 1903, A., i, 447.
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- Phenylmethylpiperidinium bromide** (v. BRAUN), 1908, A., i, 678.
- iodide** (v. BRAUN), 1907, A., i, 960.
- $\alpha$ -Phenyl- $\beta$ -methyl-propaldehyde** and its semicarbazone and **-propane- $\alpha\beta$ -diol** (TIEFENEAU and DORLENCOURT), 1907, A., i, 131.
- 2-Phenyl-1-methylcyclopropane** (KIJNER), 1912, A., i, 758.
- $\alpha$ -Phenyl- $\alpha$ -methylpropene**,  $\beta$ -bromo- (HELL and BAUER), 1904, A., i, 242.
- 1-Phenyl-5-methyl-2-isopropenylcyclohexane** (KLAGES and SAUTTER), 1906, A., i, 490.
- Phenyl  $\alpha$ -methylpropenyl ketone** and its *p*-nitrophenylhydrazone (BLAISE and HERMAN), 1911, A., i, 881.
- $\alpha$ -Phenyl- $\alpha$ -methylpropionic acid** (*phenyl dimethylacetic acid*), liberation of carbon monoxide from (BISTRZYCKI and MAURON), 1907, A., i, 1039.
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- $\gamma$ -Phenyl- $\alpha$ -methylpropyl alcohol**, *o*-hydroxy-, and its urethanes (STOERMER and SCHÄFFER), 1903, A., i, 847.
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- r*- and *l*-3-Phenyl-1-methyl-4-isopropyl-3-cyclohexanol** (MURAT), 1911, A., i, 890.
- 3-Phenyl-1-methyl-4-isopropylcyclohexene** (MURAT), 1911, A., i, 890.
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- 1-Phenyl-4-methyl-3-propylpyrazolone** (BOUVEAULT and BONGERT), 1903, A., i, 144.
- 1-Phenyl-2-methyl-4-propylurazole** (NIRDLINGER, ACREE, and HEAPS), 1910, A., i, 342.
- $\alpha$ -Phenyl- $\gamma$ -methyl- $\alpha$ -propylvaleramide** (BODROUX and TABOURY), 1910, A., i, 557.
- $\alpha$ -Phenyl- $\gamma$ -methyl- $\alpha$ -isopropylvaleronitrile** (BODROUX and TABOURY), 1910, A., i, 482.
- 3-Phenyl-1-methylpyrazole**, halogen derivatives, and their salts (MICHAELIS and DORN), 1907, A., i, 247.
- 5-Phenyl-1-methylpyrazole**, 3-chloro- (MICHAELIS and DORN), 1907, A., i, 247.
- 1-Phenyl-3-methylpyrazole**, 5-amino-, and its derivatives (MICHAELIS and BRUST), 1905, A., i, 477; (MOHR), 1909, A., i, 190.
- 1-Phenyl-3-methylpyrazole**, 4:5-diamino-, and its diacetyl derivative and hydrochloride (MICHAELIS and KLOPSTOCK), 1907, A., i, 735.
- 4-amino-5-hydroxy-**, and its derivatives (AUWERS, DANNEHL, and BOENNECKE), 1911, A., i, 170.
- 5-bromo- and 5-iodo-**, and their additive products (MICHAELIS, MOELLER, and KOBER), 1904, A., i, 781.
- 5-chloro-**, and its alkyl haloids (MAYER), 1903, A., i, 370.
- 5-chloro-4-amino-** (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1904, A., i, 940; (MICHAELIS, LEONHARDT, and WAHLE), 1905, A., i, 392.
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- 5-Phenyl-3-methylpyrazole**, 4-nitroso- (WOLFF, BOCK, LORENTZ, and TRAPPE), 1903, A., i, 210.
- and its 1-carbamyl derivative (SACHS and ALSLEBEN), 1907, A., i, 358.
- 1-Phenyl-5-methylpyrazole** and its salts (STOERMER and MARTINSEN), 1907, A., i, 446.
- preparation of, and its additive salts (STOERMER), 1907, A., i, 252.
- 1-Phenyl-5-methylpyrazole**, 4-amino-3-hydroxy-, benzyl and bezenesulphonyl derivatives of (MICHAELIS and KOTELMANN), 1907, A., i, 155.
- 3-mono- and 3:5-di-chloro- and 3-chloro-4-bromo-**, and the alkyl haloids of the 3-chloro-compound (MICHAELIS and MEYER), 1905, A., i, 378.
- 3-chloro-*m*-amino-, 3-chloro-*p*-bromo-, and 3-chloro-*m*-nitro-**, and their derivatives (MICHAELIS and STEGLER), 1908, A., i, 211.
- 3-Phenyl-5-methylpyrazole**, *s*-dinitro- (BEREND and HEYMANN), 1904, A., i, 670.
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- 1-Phenyl-3-methylpyrazole-4-azobenzene-4'-*p*-azosalicylic acid, 5-hydroxy-, and 5-hydroxy-1-*o*:*p*-*d*-nitro- (BÜLOW and HAAS), 1911, A., i, 339, 340.
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- 1-Phenyl-3-methylpyrazole-2'-carboxylic acid, 4-bromo-, and its silver salt and ethyl ester (MICHAELIS and KÄDING), 1910, A., i, 517.  
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- 1-Phenyl-3-methylpyrazole-3'-carboxylic acid, 5-chloro- (MICHAELIS and HORN), 1910, A., i, 517.
- 1-Phenyl-5-methylpyrazole-4-carboxylic acid, anilide, *p*-toluidide, and  $\alpha$ - and  $\beta$ -naphthylamides of (DAINS and BROWN), 1909, A., i, 783.
- 1-Phenyl-5-methylpyrazole-2'-carboxylic acid, 3-chloro-, and its ethyl ester, and barium and silver salts (MICHAELIS and KÄDING), 1910, A., i, 516.
- 1-Phenyl-3-methylpyrazole-4:2'-dicarboxylic acid, 5-chloro- (MICHAELIS and LEO), 1910, A., i, 515.
- 1-Phenyl-3-methylpyrazole-5-oxyacetic acid, 4-amino-, *eso*-anhydride of, and its *N*-methyl derivative (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1908, A., i, 472.
- 1-Phenyl-3-methylpyrazole-5-sulphonic acid and its salts, amide, anilide, and chloride, and 4-bromo- (MICHAELIS and PANDER), 1908, A., i, 689.
- 1-Phenyl-3-methyl-5-pyrazolidone (PRENTICE), 1904, T., 1669; P., 220.
- 1-Phenyl-3-methyl-5-pyrazolidone-3-carboxylic acid and its phenylhydrazide (FICHTER and FÜEG), 1907, A., i, 83.
- 1-Phenyl-3-methylpyrazoline (MAIRE), 1908, A., i, 291.
- 5-Phenyl-3-methylpyrazoline and its hydrochloride (KIJNER), 1912, A., i, 758.
- Phenylmethylpyrazolone, azo-compounds of (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1904, A., i, 538.
- Phenylmethylpyrazolone, *d*-nitro-. See Picrotonic acid.
- 1-Phenyl-3-methylpyrazolone, 4-oximino-, benzoyl and *m*-nitrobenzoyl derivatives of (DIMROTH and DIENSTBACH), 1909, A., i, 63.
- 1-Phenyl-4-methyl-3-pyrazolone, *p*-bromo- and *p*-nitro- (FICHTER and VORTISCH), 1907, A., i, 82.
- 1-Phenyl-5-methyl-3-pyrazolone (MAYER), 1903, A., i, 370.  
and its salts, benzoyl, aldehydic, and 4-bromo- and 4-chloro-derivatives (MICHAELIS and MEYER), 1905, A., i, 377.
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*p*-bromo-, and its diazo-chloride and 4-amino-, 4-bromo-, 4-chloro-, 4-iodo-, 4-nitro-, and 4-nitroso-derivatives and their derivatives (MICHAELIS and STIEGLER), 1908, A., i, 210.  
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4-nitroso- (MICHAELIS), 1905, A., i, 244.
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oxidation of, in presence of benzaldehyde, and its compound with hydrobenzamide (BETTI), 1906, A., i, 985.  
condensation product of (MOHR), 1905, A., i, 676.  
condensation of, with ethyl acetoacetate (STOLLÉ), 1905, A., i, 838; 1906, A., i, 48.  
condensation product of phenylazoimide with, constitution, and derivatives of (HEIDUSCHKA and ROTHACKER), 1909, A., i, 851.

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azomethine derivative of (SACHS and KRAFT), 1903, A., i, 335.
- 1-Phenyl-3-methyl-5-pyrazolone, 4-bromo-4-nitro-1-*p*-bromo- (WISLICHENUS and GÖZ), 1912, A., i, 52.  
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4-*isonitroso*- (FICHTER and FÜEG), 1907, A., i, 83.  
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- 3-Phenyl-1-methyl-5-pyrazolone, preparation of, and its derivatives (MICHAELIS, RASSMANN, DORN, v. DER HAGEN, and WREDE), 1907, A., i, 246.
- 3-Phenyl-1-methyl-5-pyrazolone, 4-amino-, and its aldehydic derivatives (MICHAELIS and WREDE), 1907, A., i, 250.
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- 1-Phenyl-3-methyl-5-pyrazolone-4-aldehyde and its silver salt, phenylhydrazone, aldazine, and azomethine derivative (FELIX and FRIEDLÄNDER), 1910, A., i, 280.
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- 1-Phenyl-3-methyl-5-pyrazolone-4-azobenzene-*p*-4'-azobenzoylacetone, ethyl ester (BÜLOW and BUSSE), 1907, A., i, 166.
- 1-Phenyl-3-methyl-5-pyrazolone-4-azobenzene-*p*-4'-azobenzoylacetone (BÜLOW and BUSSE), 1906, A., i, 718.
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- 1-Phenyl-5-methyl-3-pyrazolone-2'-carboxylic acid and its derivatives (MICHAELIS and KÄDING), 1910, A., i, 516.
- 1-Phenyl-3-methyl-5-pyrazolone-2'-carboxylic acid (MICHAELIS and EISENSCHMIDT), 1904, A., i, 624.  
and 4-bromo-, and 4-oximino- (MICHAELIS, KRUG, LEO, and ZIESEL), 1910, A., i, 514.
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and *p*'-nitro- (WAHL), 1905, A., i, 474.
- 1-Phenyl-3-methyl-5-pyrazolonylacetone, 4-amino- (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1908, A., i, 472.
- 1-Phenyl-2-methyl-3:4-pyrazopyrazol-5-one and its acetyl derivative (STOLZ), 1909, A., i, 71.
- 1-Phenyl-3-methyl-4:5-pyrazoquinone, 5-imino- (MOHR), 1909, A., i, 191.
- 1-Phenyl-3-methyl-4:5-pyrazoquinone-dioxide anhydride (MOHR), 1909, A., i, 191.
- Phenylmethylpyrazylphenylmethylpyrazolone (MOHR), 1905, A., i, 676 ; (STOLLÉ), 1905, A., i, 839.
- 6-Phenyl-3-methylpyridazine and its additive salts (PAAL and DENCKS), 1903, A., i, 289.
- 1-Phenyl-5-methylpyridazin-6-one-3-carboxylic acid (BLAISE and GAULT), 1911, A., i, 520.
- 4-Phenyl-2-methylpyridine and its 5:6-dicarboxylic acid and their salts (BÜLOW and ISSLER), 1903, A., i, 719.
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- 2-Phenyl-6-methyl-4-pyridone and its salts (RUHEMANN), 1908, T., 1284 ; P., 178.
- 2-Phenyl-6-methyl-4-pyridone, 3-cyano- (v. MEYER), 1905, A., i, 155 ; (v. MEYER and IRMSCHER), 1908, A., i, 911.
- 1-Phenyl-6-methyl-2-pyridone-3:5-dicarboxylic acid and its silver salt (SIMONSEN), 1908, T., 1032.



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- 2-Phenyl-6-methyl-4-pyrone** and its platinichloride (RUHEMANN), 1908, T., 433; P., 52.
- Phenylmethylpyrrole, 3-nitroso-, trioxime of,** and its benzoyl derivative (ANGELICO), 1905, A., i, 659.
- 2-Phenyl-5-methylpyrrole-3-carboxylic acid,** ethyl ester (BORSCHÉ and FELS), 1906, A., i, 509.
- 5-Phenyl-2-methylpyrrole-3- and -4-carboxylic acids** and their lactams (BORSCHÉ and FELS), 1907, A., i, 81.
- 1-Phenyl-2-methylpyrrolidine** and its additive salts (MARKWALDER), 1907, A., i, 638.
- 1-Phenyl-5-methylpyrrolidone,** formation of, by the simultaneous electrolytic reduction of levulic acid and nitrobenzene (EMMERT), 1907, A., i, 339.
- 1-Phenyl-2-methylpyrrolidone-2-carboxylic acid,** *p*-bromo-, *p*-chloro-, and *p*-iodo-, and their amides and nitriles (WEBER), 1907, A., i, 1071.
- 3-Phenyl-2-methyl-4-quinazolone,** 6- and 7-amino-, acetyl derivatives (BOGERT, AMEND, and CHAMBERS), 1910, A., i, 895.
- m*- and *p*-amino-, *p*-6- and -7-, and *m*-7-diamino-, and *p*-amino-6-nitro-, and their acetyl derivatives (BOGERT, GORTNER, and AMEND), 1911, A., i, 581.
- 3-Phenyl-2-methyl-4-quinazolone-6-carboxylic acid,** 7-nitro- (BOGERT and KROPFF), 1909, A., i, 843.
- 4-Phenyl-2-methylquinoline** (BÜLOW and ISSLER), 1903, A., i, 719.
- synthesis of (SPALLINO and SALIMEI), 1912, A., i, 723.
- 4-Phenyl-2-methylquinoline, 7-hydroxy-,** and its salts and ethoxy and benzoyl derivatives (BÜLOW and ISSLER), 1903, A., i, 718.
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- 3-Phenyl-6-methylquinoline,** 4-chloro- (MEYER), 1907, A., i, 242.
- 3-Phenyl-8-methylisoquinoline,** and its salts, and 1-chloro- (MÜLLER), 1909, A., i, 160.
- 2-Phenyl-6-methylquinoline-4-carboxylic acid,** ethylglycyl ester (CHEMISCHE FABRIK AUF AKTIEN FORM. E. SCHERING), 1912, A., i, 1018.
- 2-Phenyl-1-methylquinolinium iodide,** 4-chloro- (KAUFMANN and VONDERWAHL), 1912, A., i, 503.
- 3-Phenyl-1-methyl-2-quinolone** (HÜBNER), 1908, A., i, 288.
- 2-Phenyl-1-methylquinolyne-4(2')-quinaldine** and its ethiodide and iodide (KAUFMANN and VONDERWAHL), 1912, A., i, 503.
- Phenyl methylstilbyl ketone** and its hydroxylamine derivative (KONOWALOFF and FINOQUÉEFF), 1903, A., i, 264.
- Phenyl  $\alpha$ -methylstyryl ketone** (*benzylidenepropiophenone*), condensation of, with acetophenone (ABELL), 1903, T., 360; P., 17.
- Phenylmethylsulphone,** *o*-amino-, *o*-hydroxylamino- and *o*-nitro- (CLAASZ), 1912, A., i, 514.
- p*-bromo- (BOURGEOIS and ABRAHAM), 1912, A., i, 109.
- 2:4-dinitro- (CLAASZ), 1912, A., i, 390.
- Phenylmethylsulphonium dibromide** (BOURGEOIS and ABRAHAM), 1912, A., i, 109.
- Phenyl methyl sulfoxide,** *p*-amino-, acetyl derivative (ZINCKE and JÖRG), 1909, A., i, 790.
- 3-Phenyl-2-methyl-1:2:3:4-tetrahydroquinazoline,** 6-*p*-dinitro-2-hydroxy- (STILLICH), 1903, A., i, 864.
- 2-Phenyl-1-methyltetrahydroquinoline** (FREUND and SPEYER), 1905, A., i, 156.
- 1-Phenyl-2-methyltetrahydroisoquinoline** and its methiodide (FREUND and BODE), 1909, A., i, 516.
- $\delta$ -Phenyl- $\alpha$ -methyltetramethylenediamine.** See  $\alpha$ -Phenylpentane, *a $\delta$ -di*-amino-.
- 1-Phenyl-4-methyl-1:2:3:5-tetrazole** (DIMROTH and MERZBACHER), 1910, A., i, 898.
- 1-Phenyl-5-methyl-1:2:3:4-tetrazole,** and *p*-nitro- (DIMROTH and DE MONTMOLLIN), 1910, A., i, 899.
- 1-Phenyl-5-methyl-1:2:3:4-tetrazole-sulphonic acid,** sodium and silver salts (DIMROTH and DE MONTMOLLIN), 1910, A., i, 899.
- 1-Phenyl-3-methyltetronic acid** and its benzoyl derivative (DIMROTH and FEUCHTER), 1903, A., i, 631.
- 2-Phenyl-5-methylthiazole** and its platinichloride (GABRIEL), 1910, A., i, 432.
- 5-Phenyl-2-methylthiazole** and its derivatives (GABRIEL), 1910, A., i, 431.
- Phenylmethyl- $\psi$ -dithiobiurets** (JOHNSON and BRISTOL), 1903, A., i, 751.
- Phenylmethyl dithiocarbamic acid** and its esters (HELLER and MICHEL), 1903, A., i, 477.

- Phenylmethyl***dithio*-and-*thiol*-carbamic acids, phenyl esters (RIVIER), 1907, A., i, 838.
- Phenylmethyl- $\psi$ -thiocarbamide**, cyano-, and its ammonium derivative (WHEELER and JAMIESON), 1903, A., i, 751.
- 1- $\beta$ -Phenylmethylthiocarbamido-2:5-dimethylpyrrole-3:4-dicarboxylic acid**, ethyl ester (BÜLOW and SAUTERMEISTER), 1906, A., i, 314.
- Phenylmethylthiocarbamylthioglycollic acid** and its derivatives (HOLMBERG and PSILANDERHJELM), 1910, A., i, 834.
- 3-Phenyl-4-methyl-1:3:4-thiodiazolone-5-anil** (BUSCH and LIMPACH), 1911, A., i, 335.
- Phenyl methyl thioether**. See Phenyl methyl mercaptol.
- 3-Phenyl-5-methyl-2-thiohydantoin**, 1-amino-, and its derivatives (BAILEY, ACREE, and MILLER), 1904, A., i, 826.
- Phenylmethylthioncarbamic acid**, phenyl ester (RIVIER), 1906, A., i, 948.
- 1-Phenyl-3-methyl-5-thionpyrazolone** and its 4:4-diethyl derivative (STOERMER and JOHANNSEN), 1907, A., i, 967.
- 1-Phenyl-3-methyl-2:5-thiopyrazole**. See Thiopyrine.
- $\alpha$ - and  $\beta$ -Phenyl- $\delta$ -methylthiosemicarbazide**, *m*-chloro- (BUSCH and REINHARDT), 1910, A., i, 76.
- 3-Phenyl-6-methyl-2-thio-1:2:3:4-tetrahydroquinazoline** and its platinum chlorides (SENIER and SHEPHEARD), 1909, T., 499.
- 1-Phenyl-4-methylthiourazole** (BUSCH and OFFERMANN), 1904, A., i, 631.
- Phenylmethyl***dithiourethane* (v. FRAUN and RUMPF), 1903, A., i, 619.
- Phenylmethylthiuret**, action of aromatic amines and hydrazines on (FROMM and BAUMHAUER), 1908, A., i, 702.
- Phenylmethyl-*o*-toluidine**, 2:4-dinitro- (REITZENSTEIN), 1903, A., i, 816.
- Phenylmethyltriazene** (DIMROTH), 1903, A., i, 450.  
and its metallic and acetyl derivatives (DIMROTH), 1905, A., i, 311, 618.
- Phenylmethyltriazene**, reactions of (DIMROTH, EBLE, and GRUHL), 1907, A., i, 664.
- $\beta$ -Phenyl- $\beta$ -methyltriazene**,  $\alpha$ -cyano- (WOLFF and LINDENHAYN), 1904, A., i, 701.
- 1-Phenyl-5-methyl-3-triazenylamidrazone** (RINMAN), 1905, A., i, 387.
- 1-Phenyl-4-methyl-1:2:3-triazole**, 5-hydroxy-, and its derivatives (DIMROTH and LETSCHE), 1905, A., i, 100.  
and its salts (DIMROTH and LETSCHE), 1903, A., i, 129.
- 1-Phenyl-3-methyl-1:2:4-triazole picrate** (PELLIZZARI), 1911, A., i, 1036.
- 1-Phenyl-5-methyl-1:2:4-triazole**, preparation of, and its salts (PELLIZZARI), 1911, A., i, 1035, 1036; (BAMBERGER), 1912, A., i, 55.
- 1-Phenyl-2-methyl-1:3:4-triazole** and its salts (PELLIZZARI), 1911, A., i, 1036.
- 1-Phenyl-5-methyl-1:2:3-triazole-4-carboxylic acid** (v. MEYER and SCHUMACHER), 1908, A., i, 912.
- 1-Phenyl-4-methyltriazolyl-3-mercaptopol** and its silver salt (ACREE), 1904, A., i, 351.
- Phenyl methyl triketone**, acetylphenylhydrazone of (AUWERS, DANNEHL, and BOENNECKE), 1911, A., i, 172.
- Phenyl methylundecyl ketone** (HALLER and BAUER), 1909, A., i, 655.
- 1-Phenyl-2-methylurazole**, reactions of, with diazoalkyls (NIRDLINGER and ACREE), 1910, A., i, 341; (NIRDLINGER, MARSHALL, and ACREE), 1910, A., i, 444.
- 1-Phenyl-4-methylurazole** (BUSCH and OFFERMANN), 1904, A., i, 631.  
2-acetyl derivative (ACREE), 1903, A., i, 867.  
2-benzoyl derivative (ACREE), 1907, A., i, 798.  
tautomerism of salts of (ACREE, JOHNSON, BRUNEL, SHADINGER, and NIRDLINGER), 1908, A., i, 920.
- $\delta$ -Phenyl- $\alpha$ -methylvaleric acid** (v. BRAUN, DEUTSCH, and SCHMATLOCH), 1912, A., i, 434.
- $\beta$ -Phenyl- $\beta$ -methylvaleric acid** and its silver salt (INGLIS), 1911, T., 542; P., 46.
- $\alpha$ -Phenyl- $\gamma$ -methylvaleric acid** (BODROUX and TABOURY), 1910, A., i, 257.
- $\alpha$ -Phenyl- $\gamma$ -methylvaleronitrile** (BODROUX and TABOURY), 1910, A., i, 257.
- $\beta$ -Phenyl- $\beta$ -methylvalerophenone** (KÖHLER), 1907, A., i, 1054.
- Phenylmethylvinyl acetate** (WOHL and BERTHOLD), 1910, A., i, 620.
- 9-Phenyl-2-methylxanthen**, 6-hydroxy- (POPE and HOWARD), 1910, T., 81.

- 8-Phenyl-3-methylxanthine**, hydroxy- (TRAUBE and NITACK), 1906, A., i, 215.
- 2-Phenyl-naphthacinchonic acid**, *o*-nitro- (CIUSA), 1907, A., i, 853.
- Phenyl- $\beta$ -naphthacinchonic acid**, *m*- and *p*-hydroxy-, and *mp*-*di*-hydroxy- (PAULY, v. BUTTLAR, and LOCKEMANN), 1911, A., i, 786.
- 9-Phenyl- $\beta$ -naphthacridine** and its hydrate (ULLMANN, FETVADJIAN, and RACOVITZA), 1903, A., i, 521.
- 2-Phenyl-2:3-naphthaglyoxaline** and 1-amino- and their additive salts and *N*-acetyl derivative of the amino-compound (FRANZEN), 1906, A., i, 706.
- $\alpha$ -Phenyl-naphthalene** and its bromo-derivatives, formation of (STRAUS and MÜLLER), 1906, A., i, 78.
- $\alpha$ -Phenyl-naphthalene**, 2:*o*-diamino- (BUCHERER and SEYDE), 1908, A., i, 455.
- $\beta$ -Phenyl-naphthalene**, 1:3-diamino-, formation of, and its hydrochloride and acetyl derivatives (ATKINSON and THORPE), 1906, T., 1934; P., 282.
- 1-amino-3-hydroxy-, and its hydrochloride, 3-amino-1-hydroxy-, and its *N*-acetyl derivative, and 1:3-dihydroxy- (LEES and THORPE), 1907, T., 1302.
- Phenyl-naphthalenes**, hydroxy-, and their acyl derivatives (HÖNIGSCHMID), 1903, A., i, 165.
- 2-Phenyl-naphthalene-1-azo- $\beta$ -naphthol**, 3-amino-, and its *N*-acetyl derivative (LEES and THORPE), 1907, T., 1293.
- 2-Phenyl-naphthalene-3-azo- $\beta$ -naphthol**, 1-amino- (LEES and THORPE), 1907, T., 1289.
- 2-Phenyl-naphthalene-1:4'-azo-2'-phenyl-1':3'-naphthylenediamine**, 3-amino-, and its *N*-acetyl derivative and their hydrochlorides (LEES and THORPE), 1907, T., 1294.
- 2-Phenyl-naphthalene-1-carboxylic acid**. See  $\beta$ -Chrysenic acid.
- Phenyl-naphthalenedicarboxylic acid**, constitution of (MICHAEL), 1906, A., i, 518.
- 1-Phenyl-naphthalene-2:3-dicarboxylic acid**, constitution of (MICHAEL and BUCHER), 1908, A., i, 89; (BUCHER), 1908, A., i, 791.
- ethyl and ethyl hydrogen esters and the salts of the ester acid (PFEIFFER and MÖLLER), 1907, A., i, 931.
- 2-Phenyl-naphthalene-1:7-dicarboxylic acid** (*chrysodiphenic acid*) and its salts and esters (GRAEBE and GNEHM), 1905, A., i, 60.
- 1-Phenyl-naphthalene-2:3-dicarboxylic anhydride** and its reactions (STOBBE, KEDING, NAGUM, and v. VIGIER), 1907, A., i, 769.
- fluorescence of, in different solvents (STOBBE), 1909, A., ii, 282.
- Phenyl-naphthaphenazonium**, 2-hydroxy-, and its hydroxide and salts, and acetyl derivative of the hydroxide (KEHRMANN and SCHWARZENBACH), 1908, A., i, 297.
- Phenylisonaphthaphenazonium**, 6-hydroxy-, and its salts (KEHRMANN and BRUNEL), 1908, A., i, 579.
- 7-Phenylisonaphthaphenazonium salts**, hydroxy- (KEHRMANN), 1907, A., i, 563.
- 2-Phenyl-naphthapyryonium ferrichloride**, and carbinol derivative (DECKER and v. FELLEBERG), 1909, A., i, 117.
- 2-Phenyl- $\beta$ -naphthaquinoline** (BORSCHKE), 1909, A., i, 956.
- and its derivatives and **4-carboxylic acid** (SIMON and MAUGUIN), 1906, A., i, 888.
- 2-Phenyl- $\beta$ -naphthaquinoline-1-carboxylic acid** (BORSCHKE), 1909, A., i, 956.
- 2-Phenyl- $\beta$ -naphthaquinoline-3:4-dicarboxylic acid** and its esters, salts, and anhydride (SIMON and MAUGUIN), 1906, A., i, 887.
- 2-Phenyl- $\beta$ -naphthaquinoline-3:4-dicarboxylimide** (SIMON and MAUGUIN), 1908, A., i, 296.
- N*-Phenyl-*N'*-*p*-2- $\alpha$ -naphthaquinonyl-aminophenylcarbamide**, *p*-amino- (PUMMERER and BRASS), 1911, A., i, 655.
- Phenyl-naphthaquinoxalines**, synthesis of (FISCHER and RÖMER), 1908, A., i, 694.
- 2- and 3-, and their *o*-carboxylic acids (FISCHER and SCHINDLER), 1908, A., i, 221; (FISCHER and RÖMER), 1908, A., i, 695.
- 2-Phenyl-naphthatriazine**, imino-, and its additive salts (PIERON), 1908, A., i, 926.
- 2-Phenyl- $\alpha\beta$ -naphthatriazole-5:9-disulphonic acid**, *m*-amino- and *m*-nitro-, and its azo-derivative with  $\beta$ -naphthol-3:6-disulphonic acid (AKTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION), 1907, A., i, 980.



- 11-Phenyl- $\beta$ -naphthaxanthen**, 8-hydroxy- (POPE and HOWARD), 1910, T., 83.
- Phenyl-naphthiminazoles**, aminohydroxy-derivatives of (AKTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION), 1906, A., i, 713.
- Phenyl- $\alpha$ -naphthiminazoledisulphonic acid**, 5-hydroxy-3'-amino-, preparation of, and its salts (AKTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION), 1907, A., i, 1081.
- Phenyl- $\alpha$ -naphthiminazole-5:7-disulphonic acid**, amino- (AKTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION), 1906, A., i, 714.
- 2-Phenyl- $\alpha$ -naphthiminazole-7-sulphonic acid**, 5-hydroxy-, and *p*-nitro-5-hydroxy- (FARBENFABRIKEN VORM. F. BAYER & Co.), 1906, A., i, 900.
- 4-hydroxy-2-*m*-amino-, and its sodium salt (CASSELLA & Co.), 1911, A., i, 682.
- 2-Phenyl- $\alpha$ -naphthiminazole-8-sulphonic acid**, *m*-amino-6-hydroxy- and *m*-nitro-6-hydroxy-, and -7-sulphonic acid, *p*-amino-9-hydroxy- (AKTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION), 1908, A., i, 469.
- 2-Phenyl-1-naphthol** and its methyl and acetyl derivatives (DECKER), 1908, A., i, 806.
- 3-Phenyl-1-naphthol** (RUHEMANN), 1910, T., 461.
- Phenyl-naphthols**, amino-. See 2-Phenyl-naphthalene, 1-amino-3-hydroxy-, and 3-amino-1-hydroxy-.
- 4-Phenyl-1:3-naphth-*isooxazine***. See  $\beta$ -Naphthoxazinebenzylidenemethylenamine.
- 2-Phenyl-naphth-*peri*-oxazole**, tribromo- (FICHTER and GAGEUR), 1906, A., i, 840.
- $\alpha$ -Phenyl-naphthylamine**, 2-amino- and its derivatives (NOELTING, GRANDMOUGIN, and FREIMANN), 1909, A., i, 442.
- m*- and *p*-chloro- (KNOLL & Co.), 1912, A., i, 345.
- 2':4'-*d*initro-8-amino- (SACHS), 1909, A., i, 433.
- $\beta$ -Phenyl-naphthylamine** (JAPP and MATTLAND), 1903, T., 269; (BUCHERER and STOHMANN), 1904, A., i, 395.
- $\beta$ -Phenyl-naphthylamine** and *o*-, *m*-, and *p*-chloro- (KNOLL & Co.), 1912, A., i, 345.
- $\beta$ -Phenyl-naphthylamine**, 4-chloro-2:6-*d*initro-, preparation of (ULLMANN), 1908, A., i, 627.
- $\beta$ -Phenyl-naphthylamine**, *p*-hydroxy- (BUCHERER and STOHMANN), 1904, A., i, 395.
- $\alpha$ - and - $\beta$ -Phenyl-naphthylamines**, chloronitro-derivatives of (REVERDIN and CRÉPIEUX), 1903, A., i, 858.
- 2:4-*d*initro-, hydrochlorides of (BUGUET), 1910, A., ii, 826.
- thio- (KNOLL & Co.), 1912, A., i, 759.
- 2-Phenyl-naphthylamine-5:7-disulphonic acid**, *p*-nitro-*o*-amino-, and its disodium salt (GESELLSCHAFT FÜR CHEMISCHE INDUSTRIE IN BASEL), 1910, A., i, 207.
- 2-Phenyl-naphthylamine-6:8-disulphonic acid**, *p*-amino- and *p*-hydroxy- and their salts (BUCHERER and SEYDE), 1907, A., i, 511.
- p*-nitroso-, preparation of (BADISCHE ANILIN- & SODA-FABRIK), 1909, A., i, 221.
- 1-Phenyl-naphthylamine-8-sulphonic acid**, preparation of (AKTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION), 1905, A., i, 717.
- 2-Phenyl-naphthylamine-6-sulphonic acid**, *p*-amino-, *N*-acetyl derivative, and its sodium salt (BUCHERER and SEYDE), 1907, A., i, 511.
- 1-Phenyl-naphthylamine-6- and -7-sulphonic acids** (AKTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION), 1905, A., i, 770.
- 2-Phenyl-naphthylaminesulphonic acids** and their derivatives, preparation of (BUCHERER and STOHMANN), 1904, A., i, 395.
- 4-Phenyl-1- $\alpha$ - and - $\beta$ -naphthyl-3:5-*endo*-anilo-4:5-dihydro-1:2:4-triazoles** and their salts (BUSCH and BRANDT), 1907, A., i, 260.
- 9-Phenyl-10- $\alpha$ -naphthylanthracene** (GUYOT and STAEHLING), 1905, A., i, 887.
- Phenyl- $\alpha$ -naphthylbromoethylene** and its isomeride (STOERMER and SIMON), 1905, A., i, 53.
- b*-Phenyl- $\alpha$ - $\alpha$ -naphthylcarbamide**, *a*-hydroxy- (SCHEIBER and BECKMANN), 1908, A., i, 725.
- Phenyl-naphthylcarbazoles**. See Naphthacarbazoles.
- Phenyl- $\alpha$ -naphthylcarbinol** and its benzoyl derivative (CAILLE), 1908, A., i, 800.
- Phenyl- $\beta$ -naphthylcarbinol** and its benzoyl derivative (PERRIER and CAILLE), 1908, A., i, 656.
- Phenyl- $\alpha$ -naphthyl-*p*-chloroformazylbenzene-*p*-sulphonic acid**, potassium salt (FICHTER and FROELICH), 1903, A., i, 723.

$\alpha$ -Phenyl- $\beta$ - $\alpha$ -naphthylcinnamonitrile (BODROUX), 1911, A., i, 545.

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1-Phenyl-2-naphthyl-1:2-dihydroisobenzofuran, 2-hydroxy- (GUYOT and VALLETTE), 1911, A., i, 654.

2-Phenyl-1:3-naphthylenediamine, formation of, from  $\beta$ -imino- $\alpha$ -cyano- $\alpha$ -phenyl- $\beta$ - $\alpha$ -tolylethane (ATKINSON, INGHAM, and THORPE), 1907, T., 589; P., 76.

preparation of, and its acetyl, benzylidene, and methyl derivatives and their diazotisation and its compounds with diazonium salts (LEES and THORPE), 1907, T., 1282; P., 189.

methyl derivatives of (BEST and THORPE), 1909, T., 261; P., 28.

Phenyl-1:8-naphthylenediamine, 2':4'-dinitro-, condensation of, with ethyl chlorocarbonate (SACHS and FORSTER), 1911, A., i, 754.

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Phenyl-1:8-naphthyleneguanidine and its picrate (SACHS), 1909, A., i, 431.

2-Phenyl-1:3-naphthylenetetramethyldiamine and its dihydrochloride and 4-nitroso-derivative (LEES and THORPE), 1907, T., 1300.

2-Phenyl-1:3-naphthylenetrimethyldiamine and its hydrochlorides and nitrosoamine (LEES and THORPE), 1907, T., 1299.

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9-Phenyl-9- $\alpha$ -naphthylfluorene, *p*-amino-, and its hydrochloride (ULLMANN and v. WURSTEMBERGER), 1906, A., i, 77.

Phenyl- $\beta$ -naphthylformazylbenzene (FICHTER and FRÖHLICH), 1903, A., i, 723.

Phenyl- $\alpha$ -naphthylformazylbenzene-*p*-sulphonic acid, sodium salt (FICHTER and FRÖHLICH), 1903, A., i, 723.

Phenyl- $\alpha$ -naphthyl ketone and its oxime and phenylhydrazone (CAILLE), 1908, A., i, 800.

compound of, with sodamide (RAMART-LUCAS), 1909, A., i, 489.

Phenyl- $\alpha$ -naphthyl ketone, *o*-amino- (ULLMANN and BLEIER), 1903, A., i, 176.

Phenyl- $\beta$ -naphthyl ketone and its oxime, phenylhydrazone, and semicarbazone (PERRIER and CAILLE), 1908, A., i, 656.

Phenyl- $\alpha$ - and  $\beta$ -naphthyl ketones, preparation of (MONTAGUE), 1907, A., i, 855.

fission of, by sodamide (RAMART-LUCAS), 1909, A., i, 488.

Phenyl- $\alpha$ -naphthyl ketoneanil and its hydrochloride and picrate (BUSCH and FALCO), 1910, A., i, 747.

Phenyl- $\alpha$ -naphthylmethyl-acetyl- and -benzoyl-acetones and -benzoylacetic acid, ethyl ester (FOSSE), 1908, A., i, 86.

Phenylnaphthylmethyl-dimethylammonium chloride (BADISCHE ANILIN- & SODA-FABRIK), 1911, A., i, 627.

$\beta$ -Phenyl- $\beta$ -naphthylmethylmalonamic acid (KÖHLER and REIMER), 1905, A., i, 348.

5-Phenyl- $\beta$ -naphthyl-3-methylpyrazole, 7'-hydroxy- (FRANZEN and DEIBEL), 1908, A., i, 832.

Phenyl- $\alpha$ - and - $\beta$ -naphthyl-methyl- and -ethyl-thiocarbamides (BILLETTER and RIVIER), 1905, A., i, 50.

*p*-Phenyl- $\alpha$ -naphthylmethyltriphenylmethyl chloride (TSCHITSCHIBABIN), 1908, A., i, 872.

Phenyl- $\alpha$ - and - $\beta$ -naphthyloxamide (SUIDA), 1910, A., i, 665.

5-Phenyl-2- $\alpha$ -naphthyloxazole and its picrate (LISTER and ROBINSON), 1912, T., 1306.

2-Phenyl-5- $\alpha$ -naphthyloxazole and its picrate (LISTER and ROBINSON), 1912, T., 1308.

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Phenyl- $\beta$ -naphthylphosphor-*p*-toluidide (KIPPING and CHALLENGER), 1911, T., 636.

Phenyl- $\beta$ -naphthylphosphoryl chloride (KIPPING and CHALLENGER), 1911, T., 629.

Phenyl- $\beta$ -naphthylphthalamic acid (TINGLE and BRENTON), 1909, A., i, 799.

$\beta$ -Phenyl- $\beta$ -naphthylpropionic acid,  $\alpha$ -cyano-, ethyl ester (KÖHLER and REIMER), 1905, A., i, 348.

Phenylnaphthylpropionophenone (KÖHLER and JOHNSTIN), 1905, A., i, 216.

6-Phenyl-2- $\alpha$ -naphthylpyridine and its platinumchloride (SCHOLTZ and MEYER), 1910, A., i, 562.

Phenyl- $\beta$ -naphthyltartramide (TINGLE and BATES), 1909, A., i, 910.

- 6-Phenyl- $\alpha$ -*n*-naphthylthiocarbamide**, *α*-hydroxy- (SCHEIBER and BECKMANN), 1908, A., i, 725.
- Phenyl- $\beta$ -naphthylthiosemicarbazide**, 7'-hydroxy- (FRANZEN and DEIBEL), 1908, A., i, 832.
- 8-Phenyl- $\beta$ -2-naphthylthiosemicarbazide** and its benzylidene derivative (BUSCH and REINHARDT), 1910, A., i, 76.
- Phenyl- $\alpha$ -naphthyltriazene** (DIMROTH, EBLE, and GRUHL), 1907, A., i, 665.
- Phenylnaphthyl-1:2-triazole-3:8-disulphonic acid**, *p*-amino- (AKTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION), 1906, A., i, 906.
- 4-Phenyl-1:8-naphthylid-2-one** and its platinichloride (PALAZZO and TAMBURINI), 1911, A., i, 327.
- Phenylnitramic acid**, *trinitro*-, sodium salt (WITT and WITTE), 1908, A., i, 875.
- Phenylisnitroacetamide**, sodium derivative (VAN PESKI), 1909, A., i, 647.
- Phenylisnitroacetonitrile**, saponification of, to the amide by hydrogen peroxide (VAN PESKI), 1909, A., i, 647.
- Phenylisnitroacetonitrile**, *p*-bromo-, and its salts (WISLICENUS and ELVERT), 1909, A., i, 29.
- $\alpha$ -Phenyl-2-nitro-3-acetoxy-4-methoxycinnamic acid** (PSCHORR and VOGTHER), 1903, A., i, 183.
- Phenylnitroamine**. See Benzenediazoic acid.
- N*-Phenyl-*o*-nitrobenzaldoxime** (BECKMANN, EBERT, NETSCHER, and SCHULZ), 1909, A., i, 654.
- 2-Phenyl-1-*p*-nitrobenzoylamino**phenylbenziminazole, 5:*p*-*d*nitro- (KYM), 1904, A., i, 454.
- 1-Phenyl-4-*p*-nitrobenzylidenehydantoin** and 2-thio- (JOHNSON and BRAUTLECHT), 1912, A., i, 805.
- 1- and 3-Phenyl-4-*p*-nitrobenzylidenehydantoins**, 2-thio- (WHEELER and BRAUTLECHT), 1911, A., i, 501.
- Phenyl-*m*-nitrobenzylidenehydrazine**, action of amyl nitrite on (BAMBERGER and PEMSEL), 1903, A., i, 285; 1909, A., i, 56; (MINUNNI), 1905, A., i, 91.
- Phenyl-*m*-nitrobenzylidenehydrazine**, *o*-chloro- and *o*-iodo- (BUSCH and MEUSSDÖRFFER), 1907, A., i, 349.
- Phenyl- $\alpha$ -*m*-*d*nitrobenzylidenehydrazine** (BAMBERGER and PEMSEL), 1903, A., i, 285.
- Phenyl-*p*-nitrobenzylidenemethylhydrazine** (BACKER), 1912, A., i, 731.
- 3-Phenyl-*o*-, *m*-, and *p*-nitrobenzylideneisooxazolones** (MEYER), 1912, A., i, 1019.
- 3-Phenyl-5-*o*-nitrobenzylidenerrhodanic acid** (ANDREASCH and ZIPSER), 1903, A., i, 856.
- Phenyl-*m*-nitrobenzylidene- $\psi$ -thiohydantoin** (WHEELER and JAMIESON), 1903, A., i, 521.
- Phenyl-*p*-nitrobenzylnitroamine**, 2-bromo-4:6-*d*nitro- and 2:4:6-*tri*nitro- (BLANKSMA), 1903, A., i, 334.
- Phenyl-2-*p*-nitrobenzyl-1:4:6-pyronone**, 3:5-*di*-*p*-nitro- (WEDEKIND, HÄUSERMANN, WEISSWANGE, and MILLER), 1911, A., i, 220.
- Phenyl-*o*-nitrocinnamic acid**, products of dehydration of, and the products which accompany this acid when prepared by Perkin's synthesis (BAKUNIN and PARLATI), 1906, A., i, 664.
- $\alpha$ -Phenyl-*p*-nitrocinnamic acid**, *p*-nitro-, and its ethyl ester (BORSCHÉ), 1909, A., i, 925.
- 2:4-*d*nitro-, methyl ester (BORSCHÉ), 1909, A., i, 386.
- Phenylnitrocinnamic acids** and their derivatives, spacial isomerism in the (BAKUNIN and PARLATI), 1907, A., i, 415.
- Phenylnitroethanol**, secondary (HOLLEMAN), 1905, A., i, 58.
- Phenylnitroethenylamino-oxime** and its hydrochloride and copper salt (STEINKOPF and BENEDEK), 1908, A., i, 1012.
- Phenylnitroethylene**, reactions of (MEISENHEIMER and HEIM), 1907, A., i, 858.
- iso*Phenylnitroethylene**, polymeride of (MEISENHEIMER and HEIM), 1907, A., i, 859.
- Phenylnitroglyoxime peroxide** (WIELAND), 1903, A., i, 769.
- Phenyl-5-nitro-2-hydroxybenzylethylamine** (EINHORN, BISCHKOPFF, and SZELINSKI), 1906, A., i, 247.
- Phenyl-*o*-nitroindone**. See 2-Phenylnitroindone, 4-nitro-.
- Phenylnitrolic acid** (WIELAND and SEMPER), 1906, A., i, 643.
- Phenylnitromethane**. See Toluene,  $\omega$ -nitro-.
- Phenylisnitromethane**. See Toluene,  $\omega$ -isometh-.
- Phenylnitromethane**. See Toluene,  $\omega$ -*d*nitro-.
- 3-Phenyl-1-*p*-nitro-5-methyl-1:2:4-triazole** (PONZIO), 1910, A., i, 443.



- Phenyl-2:4-dinitro-1-naphthylamine** (ULLMANN), 1908, A., i, 627.  
and 2-hydroxy- (ULLMANN and BRUCK), 1909, A., i, 22.
- Phenyl-4-nitro- $\alpha$ -naphthylloxamide**, *o*- and *p*-nitro- (SUIDA), 1911, A., i, 366.
- Phenyltrinitrophenylbenzenylamidine**, *o*- and *m*-chloro- (v. WALTHER and GROSSMANN), 1909, A., i, 56.  
*p*-chloro- (v. WALTHER), 1903, A., i, 583.
- Phenyl-*o*-nitrophenylene-ethylene** (*phenyl-*o*-nitrophenylacrylene*) (BAKUNIN and PARLATI), 1906, A., i, 664.
- $\alpha$ -Phenyl- $\beta$ -*p*-nitrophenylethyl- $\beta$ -methylthiocarbamide** (JOHNSON and GUEST), 1910, A., i, 471.
- $\alpha$ -Phenyl- $\beta$ -*p*-nitrophenylethylthiocarbamide** (JOHNSON and GUEST), 1910, A., i, 311.
- $\alpha$ -Phenyl- $\beta$ -2:4-dinitrophenylethylthiocarbamide** (JOHNSON and GUEST), 1910, A., i, 311.
- 1-Phenyl-5-*p*-nitrophenyl-3-methylpyrazoline** (AUWERS and VOSS), 1910, A., i, 71.
- 3-Phenyl-1-*o*-nitrophenyl-5-methyl-1:2:4-triazole** (PONZIO), 1910, A., i, 443.
- 3-Phenyl-2-*o*-nitrophenyl- $\beta$ -naphthaquinoline** (BORSCHKE), 1909, A., i, 957.
- 3-Phenyl-2-*o*-nitrophenyl- $\beta$ -naphthaquinoline-1-carboxylic acid** (BORSCHKE), 1909, A., i, 956.
- Phenyl-*p*-nitrophenylloxamide** (SUIDA), 1910, A., i, 665.
- 5-Phenyl-2-*o*-, -*m*-, and -*p*-nitrophenyl-oxazoles** (LISTER and ROBINSON), 1912, T., 1310.
- $\delta$ -Phenyl- $\beta$ -*m*-nitrophenylthiosemicarbazide** (BUSCH and REINHARDT), 1910, A., i, 76.
- 5-Phenyl-1-*p*-nitrophenyl-1:2:3:4-tetrazole** (DIMROTH and DE MONTMOLLIN), 1910, A., i, 900.
- 1-Phenyl-2:5-di-*m*-nitrophenyl-1:3:4-triazole** (STOLLÉ and WEINDEL), 1906, A., i, 709.
- Phenylnitrosoaminoisobutyric acid** (MULDER), 1907, A., i, 508.
- Phenylnitrosohydroxylamine**, *p*-bromo- (BAMBERGER and BAUDISCH), 1909, A., i, 909.  
*p*-chloro-, and its hydroxylamine, phenylhydrazine, and metallic salts (BAMBERGER and BAUDISCH), 1909, A., i, 978.
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- Phenyl-2:6-dinitro-*p*-tolylamine** (ULLMANN and NÁDAI), 1908, A., i, 526.
- Phenyl-4:6-dinitro-3-tolylamine**, 4'-amino-, 3'-mono- and 3:5-di-chloro-4'-hydroxy-, and 4'-hydroxy- (REVERDIN, DRESEL, and DELÉTRA), 1904, A., i, 580.
- Phenyl-2:4:6-trinitro-3-tolylamine**, and 4'-amino-, and 4'-hydroxy- (REVERDIN, DRESEL, and DELÉTRA), 1904, A., i, 580.
- Phenyl-4-nitro-2-tolylodonium salts** (WILLGERODT and KOK), 1908, A., i, 620.
- 3-Phenyl-1-*o*-nitro-*p*-tolyl-5-methyl-1:2:4-triazole** (PONZIO), 1910, A., i, 444.
- 3-Phenyl-1-*p*-nitro-*o*-tolyl-5-methyl-1:2:4-triazole** (PONZIO), 1910, A., i, 443.
- Phenyl-*o*-nitro-*p*-tolylloxamide** (SUIDA), 1910, A., i, 665.
- 6-Phenyl-2-nonylpyridine** and its platinichloride (SCHOLTZ and MEYER), 1910, A., i, 562.
- Phenyl-octylene** (v. BRAUN, DEUTSCH, and SCHMATLOCH), 1912, A., i, 434.
- Phenylosazone**, *p*-nitro-,  $C_{15}H_{12}O_6N_6$  from cellulose nitrate (BERL and FODOR), 1911, A., i, 265.
- Phenylosazones of  $\alpha$ -diketones and reducing sugars**, thermochemistry of (LANDRIEU), 1906, A., ii, 270.
- Phenyloxamic acid**. See Oxanilic acid.
- Phenyloxamide**. See Oxanilamide.
- Phenyloxanilic acid**, phenyl ester (BISCHOFF and FRÖHLICH), 1907, A., i, 28.
- 3-Phenylisooxazole**, 4-amino-, and its acyl derivatives and salts, and 4-nitro- (WIELAND), 1903, A., i, 769.
- 5-Phenylisooxazole** (MOURET and DELANGE), 1904, A., i, 650.
- 5-Phenyloxazole-2-*p*-benzeneazodiethyl-aniline** (LISTER and ROBINSON), 1912, T., 1313.
- 5-Phenylisooxazole-3-carboxylic acid**, *p*-amino-, acetyl derivative, ethyl ester (BÜLOW and NOTTBOHM), 1903, A., i, 863.
- 3-Phenylisooxazole-5-carboxylic acid** (SCHÖTTLE), 1912, A., i, 915.
- 3-Phenylisooxazolidone**, 2-hydroxy- (POSNER), 1906, A., i, 955.
- Phenyloxazolone**, *p*-bromo-, and oximino-*p*-bromo-, pantachromic salts of (HANTZSCH and HEILBRON), 1910, A., i, 198.

**Phenylloxazolone**, oximino- (LUBLIN), 1907, A., i, 214.  
ethyl ester, salts of (HANTZSCH and KEMMERICH), 1909, A., i, 336.

**3-Phenyl-5-isooxazolone** (POSNER), 1905, A., i, 577; (TINGLE), 1905, A., i, 930.  
and its bromo-, nitroso-, and acetyl derivatives (POSNER), 1906, A., i, 955.  
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*s*-dinistro- (BEREND and HEYMANN), 1904, A., i, 670.

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**Phenylloximinoacetic acid**, *p*-bromo- (WISLICENUS and ELVERT), 1909, A., i, 30.

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**Phenyl pentadecyl ketone** and its oxime (RYAN and NOLAN), 1912, A., i, 749.  
physical properties of (EYKMAN), 1904, A., i, 591.

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**$\alpha$ -Phenyl- $\Delta^{\alpha\gamma}$ -pentadiene** and its optical behaviour (KLAGES), 1907, A., i, 500.

**$\epsilon$ -Phenyl- $\Delta^{\alpha\gamma}$ -pentadien- $\epsilon$ -one- $\alpha$ -carboxylic acid**,  $\alpha\beta$ -dibromo-, sodium salt (DIECKMANN and PLATZ), 1905, A., i, 118.

**$\alpha$ -Phenylpentane**,  $\alpha\delta$ -diamino- ( $\delta$ -phenyl- $\alpha$ -methyltetramethylenediamine) and its derivatives (FINZI), 1912, A., i, 1022.

**$\alpha$ -Phenylpentane**,  $\delta$ -bromo-, and  $\delta$ -cyano- (V. BRAUN, DEUTSCH, and SCHMATLOCH), 1912, A., i, 434.

$\epsilon$ -nitro-, and its derivatives (V. BRAUN and KRUBER), 1912, A., i, 266.

**1-Phenylcyclopentane** and 3-bromo- (BORSCHKE and MENZ), 1908, A., i, 149.

**1-Phenylcyclopentane**, *p*-nitro- (V. BRAUN and DEUTSCH), 1912, A., i, 436.

**1-Phenylcyclopentane-3-carboxylic acid** and its salts (BORSCHKE and MENZ), 1908, A., i, 149.

**Phenylcyclopentane group**, investigation of the (BORSCHKE, MENZ, and FELS), 1908, A., i, 147.

**1-Phenylcyclopentan-3-ol** and its acetate and phenylurethane (BORSCHKE and MENZ), 1908, A., i, 149.

**$\alpha$ -Phenylpentan- $\beta$ -one** and its semicarbazone (SENDERENS), 1910, A., i, 489.

**$\alpha$ -Phenylpentan- $\gamma$ -one** and its semicarbazone (SENDERENS), 1911, A., i, 302.

**1-Phenylcyclopentan-3-one** and its semicarbazone (BORSCHKE and MENZ), 1908, A., i, 149.

**Phenyl- $\Delta\beta$ -pentene** (KLAGES), 1907, A., i, 500.

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**$\alpha$ -Phenyl- $\Delta\alpha$ - and - $\Delta\beta$ -pentenes** and their bromides (KLAGES, GIESER, and LAUCK), 1906, A., i, 661.

**$\alpha$ -Phenylpentenecarboxylic acids**,  $\beta$ -chloro- (DIMROTH and FEUCHTER), 1903, A., i, 630.

**$\delta$ -Phenyl- $\Delta\alpha$ -pentenoic acid**, conversion of, into the  $\Delta\gamma$ -isomeride (BOUGAULT), 1911, A., i, 202.

**$\delta$ -Phenyl- $\Delta\beta$ -pentenoic acid**, ethyl ester (MICHAEL and GARNER), 1906, A., i, 275.

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**$\alpha$ -Phenyl- $\Delta\alpha$ -penten- $\gamma$ -ol** and  $\beta$ -bromo-, and  **$\alpha$ -Phenyl- $\alpha$ -pentinen- $\gamma$ -ol** and their reduction (KLAGES, GIESER, and LAUCK), 1906, A., i, 661.

**$\epsilon$ -Phenyl- $\Delta\alpha$ -penten- $\gamma$ -ol- $\epsilon$ -one- $\alpha$ -carboxylic acid**,  $\alpha\beta$ -dibromo- and  $\alpha\beta$ -dichloro-, lactones of (DIECKMANN and PLATZ), 1905, A., i, 118.

**1-Phenyl- $\Delta^1$ -cyclopenten-3-one** (BORSCHKE and FELS), 1906, A., i, 509; 1907, A., i, 81.

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- $\alpha$ -Phenyl- $\Delta^{\alpha}$ -pentinen- $\gamma$ -ol (BRACHIN), 1907, A., i, 129.
- $\alpha$ -Phenyl- $\Delta^{\beta}$ -pentinen- $\alpha$ -ol and its benzoyl derivative and di-iodide (DUPONT), 1909, A., i, 546.
- 4-Phenylcyclopentylidene-1-phenylcyclopentan-3-one (BORSCHÉ and MENZ), 1908, A., i, 149.
- 1-Phenylperimidine, *op*-dinitro-, and its picrate (SACHS and FORSTER), 1911, A., i, 754.
- 2-Phenylperimidine and its salts (SACHS), 1909, A., i, 428.
- 2-Phenylperimidine, *o*-, *m*-, and *p*-nitro-, *o*-amino-, and anhydro-compound from, *m*-amino-, and *p*-amino-, and its acetyl derivative (SACHS and STEINER), 1909, A., i, 970.
- 1-Phenylperimidine-2-benzoic acid, *op*-diamino-, and its picrate and *op*-dinitro- (SACHS and FORSTER), 1911, A., i, 755.
- Phenylphenacetylaminomethylcarbinol (PICTET and GAMS), 1910, A., i, 774.
- Phenylphenacylacetic acid, synthesis of, from phenylsuccinic acid (ANSCHÜTZ and WALTER), 1907, A., i, 769.
- Phenylphenacyl-oxamethane and -urethane (MASELLI), 1905, A., i, 776.
- 3-Phenyl-5-phenacylisooxazole (SCHÖTTLE), 1912, A., i, 915.
- Phenylphenanthraphenazonium salts, hydroxy- (ULLMANN and FUKUI), 1908, A., i, 298.
- s*-Phenyl-4-phenanthrylcarbamide (SCHMIDT and HEINLE), 1911, A., i, 626.
- 10-Phenylphenazonium, 1- and 3-amino-, their salts and acetyl derivatives (KEHRMANN and MASSLENIKOFF), 1911, A., i, 927.
- 2:6-diamino-, chloride (KEHRMANN and RIERA y PUNTI), 1911, A., i, 926.
- 2-amino-3-hydroxy-, and its diacetyl derivative and 3-hydroxy-, and their salts (KEHRMANN and SCHWARZENBACH), 1908, A., i, 297.
- dichloro-, salts of (BALLS, HEWITT, and NEWMAN), 1912, T., 1849.
- S*-Phenylphenazothionium, derivatives of (SMILES and HILDITCH), 1907, P., 306; 1908, T., 145, 1687; P., 199; (BARNETT and SMILES), 1910, T., 362; P., 47.
- hydroxide and salts,  $\alpha$ - and  $\beta$ -3:9-dinitrohydroxy- (SMILES and HILDITCH), 1908, T., 1692.
- hydroxide and salts, *isodinitrohydroxy*- (SMILES and HILDITCH), 1908, T., 1697.
- Phenyl-*p*-phenetyl-carbamidoazobenzene, -carbamide, and -triazene (DIMROTH, EELE, and GRUHL), 1907, A., i, 664.
- Phenyl-*m*-phenetylthiocarbamide (JACOBSON and HÖNIGSBERGER), 1904, A., i, 205.
- Phenyl-*p*-phenetidylethylene (BUSIGNIES), 1910, A., i, 668.
- $\alpha$ -Phenyl-*p*-phenetidylpropylene and  $\beta$ -bromo- (BUSIGNIES), 1910, A., i, 668.
- 7-Phenyl-1:2- and -2:1-phenonaphthacridines, 9-amino- and 9-nitro- (ULLMANN and ERNST), 1906, A., i, 205.
- 9:11-dinitro- (ULLMANN and BROIDO), 1906, A., i, 189.
- 11-Phenylphenonaphthaffluorone (POPE and HOWARD), 1911, T., 549.
- Phenyl phenoxymethyl ketone, *p*-amino-, acetyl derivative (KUNCKELL), 1911, A., i, 990.
- 3-Phenyl-5-phenoxymethylisooxazole (v. WALTHER and LITTER), 1911, A., i, 237.
- 4-Phenyl-3-phenoxymethylisooxazolone and 5-imino-4-*p*-chloro- (v. WALTHER and HERSCHEL), 1911, A., i, 238.
- 3-Phenyl-5-phenoxymethylpyrazole (v. WALTHER and LITTER), 1911, A., i, 237.
- Phenyl- $\beta$ -phenylalkylsulphones (POSNER and TSCHARNO), 1905, A., i, 279.
- Phenyl- $\beta$ -phenylbutenylsulphone (POSNER and TSCHARNO), 1905, A., i, 279.
- Phenyl  $\delta$ -phenylbutyl ketone and its oxime (BORSCHÉ), 1912, A., i, 194.
- Phenylphenylbutylthiocarbamide (v. BRAUN and DEUTSCH), 1912, A., i, 694.
- Phenyl-*o*-phenylenediamine, acetyl and benzoyl derivatives (WOLFF), 1912, A., i, 1028.
- Phenyl-*o*-phenylenediamine, 2:4-dinitro-, and its hydrochloride (BORSCHÉ and RANTSCHKEFF), 1911, A., i, 332.
- Phenyl-*p*-phenylenediamine and its derivatives, preparation of (ULLMANN), 1908, A., i, 457.
- bases formed by condensing, with aromatic aldehydes, hydrochlorides of (MOORE and WOODBRIDGE), 1908, A., i, 686.
- Phenyl-*p*-phenylenediamine, 4'-bromo-, and 4-chloro-, and their salts (BAMBERGER and HAM), 1911, A., i, 685.
- tri*- and *penta*-bromo- (JACOBSON, BARTSCH, LOER, and STEINBRECK), 1909, A., i, 683.



- Phenyl-*p*-phenylenediamine**, 2- and 4-*mono*-, 2:4-*di*-, and 2:4:6-*tri*-nitro-, and their diazo-derivatives (MORGAN and MICKLETHWAIT), 1908, T., 608; P., 48.
- as*-**Phenyl-*p*-phenylene-ether-phenyl-iodinium hydroxide**, *m*-*dinitro*-, and its salts with acids (WILLGERODT and WIEGAND), 1909, A., i, 912.
- Phenyl-*p*-phenylenemethyldiamine**, *di*- and *tri*-nitro- (GNEHM and SCHROTER), 1906, A., i, 212.
- Phenylphenylene- $\beta$ -naphthylenemethane** (ULLMANN and MOURAWIEW-WINIGRADOFF), 1905, A., i, 642.
- $\alpha$ -**Phenyl- $\beta$ ( $\alpha$ )-phenylethyl- $\beta$ -ethylhydrazine** and its derivatives (WIELAND and FRESSEL), 1911, A., i, 495.
- 1-Phenyl-4- $\alpha$ -phenylethylidene-3-methyl-5-pyrazolone** (HEIDUSCHKA and ROTHACKER), 1912, A., i, 52.
- Phenyl  $\beta$ -phenylethyl ketone** (DUTTA and WATSON), 1912, P., 106.
- Phenyl  $\beta$ -phenylethyl ketone**, *op*-*di*hydroxy- (2':4'-*dihydroxyhydrochalcone*) and its methyl ethers and oxime (BARGELLINI and MARANTONIO), 1908, A., i, 801.
- Phenyl- $\beta$ -phenylethylmethylamine** and its picrate and platinumchloride (v. BRAUN), 1911, A., i, 35.
- $\beta$ -**Phenyl- $\alpha$ -phenylethyl- $\alpha$ -methylcarbamide** (JOHNSON and GUEST), 1909, A., i, 785.
- $\beta$ -**Phenyl- $\alpha$ -phenylethyl- $\alpha$ -methylthiocarbamide** (JOHNSON and GUEST), 1909, A., i, 785.
- Phenyl  $\beta$ -phenyl- $\alpha$ -methylbutyl ketone** and its oxime (REYNOLDS), 1910, A., i, 858.
- Phenylphenylpropylthiocarbamide** (v. BRAUN and DEUTSCH), 1912, A., i, 694.
- Phenyl phenylstyryl ketone** (*phenylbenzylidenacetophenone*) (KOHLEH and JOHNSTIN), 1905, A., i, 215.
- Phenyl  $\beta$ -phenylthiol- $\gamma$ -benzylidenepropyl ketone** (RUHEMANN), 1905, T., 24.
- Phenylphosphordi-*p*-toluidide** (KIPPING and CHALLENGER), 1911, T., 636.
- Phenylphthalamic acid**, aniline, benzylamine, methylamine, and  $\beta$ -naphthylamine salts (KOMATSU), 1909, A., i, 483.
- Phenylphthalamic acid**, *p*-amino-, *N*-acetyl derivative of, and its *o*-mono- and *di*-nitro-derivatives (CHAZEL), 1907, A., i, 793.
- Phenylphthalamic acid**, *p*-chloro- (TINGLE and BRENTON), 1909, A., i, 799.
- m*-nitro-, salts of, with organic bases (TINGLE and BRENTON), 1909, A., i, 799.
- m*- and *p*-nitro-, and the benzylamine and quinoline salts of the *m*-nitro-acid (TINGLE and ROLKER), 1909, A., i, 29.
- 1-Phenylphthalazine** and 4-chloro- and 4-iodo- (LIECK), 1906, A., i, 50.
- Phenylphthalazone** and its salts (THIELE and FALK), 1906, A., i, 751.
- Phenylphthalazone**, 3:5:6-*tribromo*-4-hydroxy-, and its acetyl derivative (ZINCKE and BUFF), 1908, A., i, 645.
- 3-Phenylphthalazone-1-carboxylic acid**, ethylester (DIECKMANN and MEISER), 1908, A., i, 895.
- Phenylphthalide**, hydroxy-, oxime and dibenzoate (MEYER and KISSIN), 1909, A., i, 652.
- Phenylphthalideanilide** (MEYER), 1908, A., i, 25.
- Phenylphthalimide**, action of magnesium organo-compounds on (BÉIS), 1904, A., i, 503, 671.
- Phenylphthalimide**, *p*-amino-, acetyl derivative of, and its nitro-derivatives (CHAZEL), 1907, A., i, 793.
- $\alpha$ -**Phenylphthalimide** of Kuhara and Fukui. See Phthalylidiphenyldiamide.
- Phenylphthalimides**, isomeric (KUHARA and KOMATSU), 1909, A., i, 484; 1911, A., i, 205.
- Phenylphthalimidinanil** and its platinumchloride (THIELE and SCHNEIDER), 1909, A., i, 930.
- Phenyl- $\gamma$ -phthalimidopropylsulphone** (GABRIEL and COLMAN), 1912, A., i, 116.
- Phenyl  $\zeta$ -phthaliminoheptyl ketone** (GABRIEL), 1909, A., i, 892.
- Phenyl phthaliminopropyl ketone** (HILDESHEIMER), 1910, A., i, 891.
- 10-Phenylphthaloperine**, 10-hydroxy-, and its hydrochloride (SACHS), 1909, A., i, 430.
- Phenyl- $\alpha$ -picolylalkine**. See 2- $\beta$ -Phenylethylpyridine,  $\beta$ -hydroxy-.
- $\beta$ -**Phenylpicelic- $\beta$ -acetic acid** and its methyl ester (MEERWEIN), 1908, A., i, 545.
- Phenylpiperidine**, *op*-diamino-, and its diacetyl derivative, *op*-*dinitro*-, 2-nitro-4-amino-, and 4-nitro-2-amino-, and its acetyl derivative, and their salts (SPIEGEL and UTERMANN), 1906, A., i, 882.

- Phenylpiperidine, *op*-dinitro-, preparation and reduction of (SPIEGEL and KAUFMANN), 1908, A., i, 293.  
 action of hydrazine hydrate on (SPIEGEL), 1908, A., i, 363.
- 1-Phenylpiperidine and *p*-bromo-, action of cyanogen bromide on (V. BRAUN), 1907, A., i, 960.  
 hydrobromide and picrate (V. BRAUN), 1907, A., i, 960.
- 1-Phenylpiperidine, *di*-*o*-nitro- (BORSCHKE and RANTSCHKEFF), 1911, A., i, 330.
- 2-Phenylpiperidine and its additive salts (GABRIEL), 1908, A., i, 649.
- Phenylpiperidinecarbamide, and *p*-nitro- (BOUCHETAL DE LA ROCHE), 1903, A., i, 574.
- N*-Phenylpiperidone, 4-nitro-2-amino-, *N*(2)-benzoyl derivative of (SPIEGEL and KAUFMANN), 1908, A., i, 293.
- Phenyl  $\alpha$ -piperidylbenzyl ketone and its methiodide (RABE and RIEFER), 1912, A., i, 718.
- Phenylpiperidylcarbamide, bromo- and chloro-derivatives of (BOUCHETAL DE LA ROCHE), 1904, A., i, 189.
- $\beta$ -Phenyl- $\beta$ -piperidylpropionophenone and its salts (GEORGI and SCHWYZER), 1912, A., i, 787.
- Phenyl piperidylstyryl ketone (*piperidylbenzylideneacetophenone*) (WATSON), 1904, T., 1323; P., 181.
- Phenylpiperidylthiocarbamide (HOLMBERG), 1912, A., i, 133.
- Phenylpiperidylurethane, 2:4:6-trichloro- and *o*-nitro- (BOUCHETAL DE LA ROCHE), 1903, A., i, 776.
- Phenylpiperonaldoxime (PLANCHER and PICCININI), 1905, A., i, 705.
- $\delta$ -Phenyl- $\alpha$ -piperonylfulgenic acid (STOBBE, KAUTZSCH, and BADENHAUSEN), 1911, A., i, 376.
- $\delta$ -Phenyl- $\alpha$ -piperonylfulgide (STOBBE, KAUTZSCH, and BADENHAUSEN), 1911, A., i, 377.
- 1-Phenyl-4-piperonylhydantoin, 2-thio- (JOHNSON and BRAUTLECHT), 1911, A., i, 814.
- 1-Phenyl-4-piperonylidenehydantoin, 2-thio- (WHEELER and BRAUTLECHT), 1911, A., i, 501.
- Phenylpiperonylidene nitromethane (KNOEVENAGEL and WALTER), 1905, A., i, 66.
- $\beta$ -Phenyl- $\beta$ -3-piperonylidene cyclopentan-2-onylpropionophenones (GEORGI and VOLLAND), 1912, A., i, 781.
- Phenylpiperonylidene-*p*-phenylenediamine (MOORE and WOODBRIDGE), 1908, A., i, 686.
- 3-Phenyl-1-piperonyl-5-pyrazolone and 4-oximino-, and their silver salts (CURTIUS and SCHMITTMANN), 1912, A., i, 509.
- $\alpha$ -Phenylpropaldehyde. See Hydratropaldehyde.
- $\gamma$ -Phenylpropaldehyde and  $\alpha$ -nitro-, derivatives of (V. BRAUN and KRUBER), 1912, A., i, 266.
- Phenylpropane. See Propylbenzene.
- trans*-Phenylcyclopropanecarboxylic acid and its salts, ethyl ester, amide, and amino- and nitro-derivatives (BUCHNER and GERONIMUS), 1904, A., i, 53.
- 3-Phenylcyclopropane-1:2-dicarboxylic acid, 1-cyano-, ethyl ester (SCHEIBER), 1912, A., i, 561.
- cis*-1-Phenyl-*trans*-cyclopropane-2:3-dicarboxylic acid and its amino- and nitro-derivatives, methyl ester, and isomeride (BUCHNER and PERKEL), 1904, A., i, 102.
- 3-Phenylcyclopropane-1:2-di- and 1:1:2:3-tetra-carboxylic acids and their ethyl esters (KÖTZ), 1907, A., i, 707.
- 1-Phenylcyclopropane-2:3-di- and 2:2:3:3-tetra-carboxylic acids (KÖTZ and STALMANN), 1903, A., i, 741.
- $\alpha$ -Phenyl- $\alpha\beta$ -propanedione, 2:4-dinitro-,  $\alpha$ -phenylhydrazone and bisphenylhydrazone of (BORSCHKE), 1909, A., i, 233.
- $\beta$ -Phenylpropane- $\alpha\alpha\gamma\gamma$ -tetracarboxylic acid,  $\alpha$ -bromo-, ethyl ester (KÖTZ), 1907, A., i, 707.
- $\beta$ -Phenylpropane- $\alpha\alpha\gamma$ -tricarboxylic anhydride, 2-hydroxy- (KNOEVENAGEL and ARNOT), 1905, A., i, 65.
- $\alpha$ -Phenylpropane- $\alpha\gamma\gamma$ -trimalonc acid and its esters (MEERWEIN), 1908, A., i, 545.
- Phenylpropargylidene chloride (CHARON and DUGOUJON), 1903, A., i, 688.
- $\alpha$ -Phenyl- $\Delta\alpha$ -propen- $\beta$ -ol benzoate, 2:4-dinitro- (BORSCHKE), 1909, A., i, 232.
- 9- $\gamma$ -Phenylpropenylfluorene (*hydrocin-namylidenefluorene*), polymerides of (THIELE and HENLE), 1906, A., i, 573.
- Phenyl propenyl ketone and bromo- (KÖHLER), 1909, A., i, 940.
- Phenylpropenylmalonic acid, dibrucine salt, and its rotatory power (HILDITCH), 1909, T., 1574; P., 214.
- 1-Phenyl-3-propenyltriazole, 5-hydroxy- (RUPE and METZ), 1903, A., i, 536.
- Phenylpropionaldehyde (*phenylpropargylaldehyde*) and its reactions and oxime (CLAISEN), 1904, A., i, 14.  
*o*-diethyl ether (MOUREU and DELANGE), 1904, A., i, 650.

**Phenylpropiolaldehyde** (*phenylpropargylaldehyde*), reaction of, with organomagnesium haloids (BRACHIN), 1907, A., i, 128.

**Phenylpropionic acid** and its derivatives, condensation of, to naphthalene derivatives (BUCHER), 1910, A., i, 258.

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and *o*- and *p*-nitro-, addition of iodine to (JAMES and SUDBOROUGH), 1907, T., 1041; P., 136.

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menthyl ester (RUPE and BUSOLT), 1909, A., i, 928.

*d*-methylhexylcarbinyl ester of (HILDITCH), 1911, T., 222; P., 6.

*dl*-, *d*-, and *l*-*β*-octyl esters of (PICKARD and KENYON), 1911, T., 67.

**Phenylpropionic acid**, *o*-nitro-, bromination of (HELLER and TISCHNER), 1910, A., i, 37.

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**Phenylpropionyl chloride**, action of, on ketonic compounds (RUHEMANN and MERRIMAN), 1905, T., 1383; P., 224; (RUHEMANN), 1906, T., 682; P., 89.

**Phenylpropionylcarbamide**, ethyl ester (RUHEMANN and PRIESTLEY), 1909, T., 451; P., 62.

**Phenylpropionylcarbamide** (RUHEMANN), 1909, T., 1609; P., 220.

**Phenylpropionylphenylacetamide** (RUHEMANN), 1909, T., 991.

**Phenylpropionyl-*p*-tolylcarbamide** (RUHEMANN), T., 1609; P., 220.

*dl*-**β-Phenylpropionacetal**, *α*-amino-, and its picrate (FISCHER and KAMETAKA), 1909, A., i, 213.

**β-Phenylpropionamide** (*hydrocinnamamide*), action of sodium hypochlorite and of bromine and sodium alkyl-oxides on (WEERMAN and JONGKEES), 1906, A., i, 665.

**β-Phenylpropionamide**, *α*-cyano-*p*-hydroxy- (SCLAVI), 1911, A., i, 398.

**α-Phenylpropionanilide** (STAUDINGER and RUŽIČKA), 1911, A., i, 464.

**β-Phenylpropionhydroxamic acid**, *α*-amino-*β*-hydroxylamino-, benzoyl derivative (POSNER and STIRNUS), 1912, A., i, 457.

*m*-amino-*β*-hydroxylamino-, and *β*-hydroxylamino-*o*-, *m*-, and *p*-nitro- (POSNER), 1912, A., i, 455.

*β*-hydroxylamino-*m*-hydroxy-, hydroxylamine salt (POSNER), 1912, A., i, 455.

**α-Phenylpropionic acid**, menthyl ester (RUPE and BUSOLT), 1909, A., i, 928.

**α-Phenylpropionic acid**, *α*-amino-, *dl*-, *d*-, and *l*-formyl derivatives (MCKENZIE and CLOUGH), 1912, T., 394. and its amide and nitrile and their hydrochlorides (JAWELOFF), 1906, A., i, 426.

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*α*-hydroxy-, and its salts (SMITH), 1912, A., i, 113.

and its ethyl ester (GRIGNARD), 1903, A., i, 32.

and *p*-methoxy-*α*-phenylpropionic acid, *α*-hydroxy-, comparative study of the dehydration of (BOUGAULT), 1908, A., i, 340.

*l*-*α*-hydroxy-, ethyl ester (MCKENZIE and CLOUGH), 1910, T., 2569; P., 325.

2:5-dihydroxy-, and its anhydride. and 2:5-trihydroxy-, synthesis of (NEUBAUER and FLATOW), 1907, A., i, 771.

**β-Phenylpropionic acid** (*benzylacetic acid*; *hydrocinnamic acid*), velocity of esterification of (KAILAN), 1908, A., ii, 27.

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- $\beta$ -Phenylpropionic acid** (*benzylacetic acid*; *hydrocinnamic acid*), alkaloidal salts, and their optical activity (HILDITCH), 1908, T., 702; P., 61.  
 brucine salt (HILDITCH), 1911, T., 235.  
 benzoin ester, benzylamide,  $\alpha$ -phenyl-ethylamide, and piperidide of (MOHR), 1905, A., i, 428.  
 benzyl ester (BACON), 1905, A., i, 205.  
 bornyl and menthyl esters, properties of (HILDITCH), 1907, P., 287; 1908, T., 1.  
 glycol ester (FARBENFABRIKEN VORM. F. BAYER & Co.), 1912, A., i, 974.  
*d*-methylhexylcarbonyl ester (HILDITCH), 1911, T., 222; P., 6.  
*d*- and *l*- $\beta$ -octyl esters of (PICKARD and KENYON), 1911, T., 66.
- $\beta$ -Phenylpropionic acid**, *o*-amino-, and its *N*-benzoyl derivative (REISSERT), 1905, A., i, 926.  
*p*-amino- and *p*-nitro- (MARIE), 1905, A., i, 554.  
 $\beta$ -amino-, and its metallic and additive salts,  $\beta$ -hydroxy-, and  $\beta$ -hydroxylamino- (POSNER), 1905, A., i, 577, 776.  
*d*- and *l*-forms, and their ethyl esters, and  $\beta$ -formylamino-, *dl*-, *d*-, and *l*-forms and quinine and quinidine salts of (FISCHER, SCHEIBLER, and GROH), 1910, A., i, 622.  
 $\alpha\beta$ -diamino-,  $\alpha$ -benzoyl derivative (POSNER and STERNUS), 1912, A., i, 457.  
 $\alpha$ -amino-3:5-dibromo-, *N*-phthalyl derivative of (WHEELER and CLAPP), 1908, A., i, 898.  
 $\beta$ -amino-*m*- and *p*-hydroxy-, *m*- $\beta$ -diamino-, and *o*-, *m*-, and *p*-nitro- $\beta$ -amino- (POSNER), 1912, A., i, 455.  
*dl*- $\alpha$ -amino-3:4-dihydroxy-, benzoyl derivative (FUNK), 1911, T., 556.  
 $\alpha$ -amino- $\beta$ -hydroxylamino-, benzoyl derivative (POSNER and STERNUS), 1912, A., i, 457.  
 $\alpha$ -bromo-, and its chloride and amino-acid derivatives (FISCHER), 1904, A., i, 890.  
 resolution of (FISCHER and CARL), 1907, A., i, 9.  
*d*- and *l*- $\alpha$ -bromo-, and their ethyl esters (FISCHER and SCHOELLER), 1907, A., i, 1037.  
 $\alpha\beta$ -dibromo- and its esters, action of alkalis on (STUBBOROUGH and THOMPSON), 1903, T., 666, 1153; P., 106, 204.
- $\beta$ -Phenylpropionic acid**,  $\alpha\beta$ -dibromo-, action of organic bases on (JAMES and STUBBOROUGH), 1909, T., 1543.  
 $\alpha\alpha\beta$ - and  $\alpha\beta\beta$ -tribromo-, and their methyl esters, and  $\beta$ -chloro- $\alpha\beta$ -dibromo- (STUBBOROUGH and WILLIAMS), 1907, P., 146.  
 $\alpha\beta$ -dichloro-, and its esters, preparation of (STUBBOROUGH and JAMES), 1906, T., 106.  
 $\alpha\alpha\beta$ -trichloro-, and its methyl ester (CLARKE), 1910, T., 893; P., 96.  
 $\alpha$ -chloro- $\alpha\beta$ -dibromo- and  $\alpha\alpha\beta$ -trichloro- (CHARON and DUGOUJON), 1903, A., i, 472.  
 $\alpha$ -*o*-dicyano-, ethyl ester (MITCHELL and THORPE), 1910, T., 2275.  
 $\alpha$ -hydroxy-, ethyl ester (CURTIUS and MÜLLER), 1904, A., i, 481.  
 $\beta$ -hydroxy-, synthesis of (ANDRIEWSKY), 1909, A., i, 158.  
 ether derivatives of (SCHRAUTH, SCHOELLER, and STRUENSEE), 1911, A., i, 641.  
 $\alpha$ - and  $\beta$ -hydroxy-, affinity constants of (FINDLAY, TURNER, and OWEN), 1909, T., 940; P., 146.  

*p*-hydroxy-, ethyl ester, and its amide (FARBENFABRIKEN VORM. F. BAYER & Co.), 1911, A., i, 629.  
*d*- $\alpha$ -*p*-dihydroxy- (EHRlich and JACOBSEN), 1911, A., ii, 521.  
 $\beta$ -hydroxylamino-, and its nitroso- and diacyl derivatives (POSNER), 1906, A., i, 955.  
 $\beta$ -hydroxylamino-*p*-hydroxy- (POSNER), 1912, A., i, 455.  
 $\beta$ -imino- $\alpha$ -cyano-, ethyl ester, and the action of sulphuric acid on (ATKINSON, INGHAM, and THORPE), 1907, T., 590.

**$\alpha$ -Phenylpropionic acids**,  $\alpha$ -chloro-, optically active (McKENZIE and CLOUGH), 1910, T., 1021.  
 $\alpha$ -hydroxy-, optically active, interconversion of (McKENZIE and CLOUGH), 1910, T., 1016; P., 85.  
 conversion of, into  $\alpha$ -chloro- (McKENZIE and CLOUGH), 1910, T., 2564; P., 325.

*d*- and *l*- **$\beta$ -Phenylpropionic acids**,  $\alpha$ -hydroxy-, interconversion of (McKENZIE and WREN), 1910, T., 1355; P., 181.  
 ethyl esters (McKENZIE and BARROW), 1911, T., 1921.  
 $\beta$ -hydroxy- (McKENZIE and HUMPHRIES), 1910, T., 123.

**Phenylpropionic acids**,  $\alpha$ - and  $\beta$ -,  $\alpha$ -hydroxylamino- (POSNER), 1904, A., i, 160.

- $\beta$ -Phenylpropionitrile**,  $\beta$ -imino-, action of anil nitrite on (LUBLIN), 1904, A., i, 890.
- $\alpha$ -Isonitroso- $\beta$ -nitrosoimino-**, ammonium derivative (LUBLIN), 1904, A., i, 890; 1907, A., i, 214.
- $\alpha$ -Phenylpropionyl chloride**, and  $\beta$ -chloro-, and  $\alpha\beta$ -dichloro-, and their derivatives (STAUDINGER and RUŽIČKA), 1911, A., i, 463.
- dl*- $\alpha$ -Phenylpropionyl chloride**,  $\alpha$ -chloro- (MCKENZIE and CLOUGH), 1910, T., 1021.
- $\beta$ -Phenylpropionyl chloride**, *d*- $\alpha$ -bromo- (FISCHER and SCHOELLER), 1907, A., i, 1038.
- $\alpha\beta$ -dichloro-, and  $\alpha\alpha\beta$ -trichloro- (CLARKE), 1910, T., 893; P., 96.
- $\beta$ -Phenylpropionyl-alanine**, -glycine, and -leucines,  $\alpha$ -bromo- (FISCHER and BLANK), 1907, A., i, 684.
- $\omega$ -( $\beta$ )-Phenylpropionylaminoacetophenone** (LISTER and ROBINSON), 1912, T., 1303.
- $\beta$ -Phenylpropionylglycine**, synthesis and degradation products of (DAKIN), 1908, A., ii, 720.
- $\beta$ -Phenylpropionylglycine**, *d*- $\alpha$ -bromo- (FISCHER and SCHOELLER), 1907, A., i, 1038.
- $\beta$ -chloro- $\alpha$ -bromo-,  $\alpha$ -bromo- $\beta$ -hydroxy-,  $\alpha\beta$ -*di*bromo-, and  $\beta$ -hydroxy- (DAKIN), 1909, A., i, 103.
- Phenylpropionylidenemalononic acid**, ethyl ester (CLAISEN), 1904, A., i, 14.
- $\beta$ -Phenylpropionylmesitylene**,  $\alpha\beta$ -*di*-bromo- (KOHLE), 1907, A., i, 1054.
- $\beta$ -Phenylpropionylphenylhydrazine** ( *$\beta$ -hydrocinnamoylphenylhydrazine*) (RUPE and METZ), 1903, A., i, 536.
- $\beta$ -Phenylpropionyltropeine**,  $\alpha$ -hydroxy-, and its salts and methobromide (JOWETT and PYMAN), 1909, T., 1023.
- Phenylpropoxyacetic acid**, affinity constant of (FINDLAY, TURNER, and OWEN), 1909, T., 940; P., 146.
- $\alpha$ -Phenylpropyl chlorohydrin** and its derivatives (FOURNEAU), 1907, A., i, 763.
- $\beta$ -Phenylpropyl acetate** (WOHL and BERTHOLD), 1910, A., i, 620.
- $\gamma$ -Phenylpropyl chloride**, *p*-hydroxy-, and *p*-nitro- (v. BRAUN and DEUTSCH), 1912, A., i, 845.
- iodide and ether (AGEEWA), 1905, A., i, 776.
- mercaptan (v. BRAUN), 1912, A., i, 552.
- $\gamma$ -Phenylpropyl nitrite** (v. BRAUN and KRUBER), 1912, A., i, 266.
- $\alpha$ -Phenylpropyl alcohol**,  $\beta$ -oximino- (RABE and HUNNIUS), 1912, A., i, 718.
- $\alpha$ -Phenylisopropyl alcohol**, quaternary ammonium base from, and its derivatives (EMDE and RUNNE), 1910, A., i, 479.
- $\alpha$ -Phenylisopropyl alcohol**,  $\alpha$ -amino-, preparation of (EMDE and RUNNE), 1909, A., i, 300.
- $\beta$ -Phenylpropyl alcohol** (*dihydrocinnamyl alcohol*),  $\gamma$ -chloro- (RIEDEL), 1907, A., i, 920.
- o*-hydroxy-, and its benzoyl derivative (SEMMER), 1906, A., i, 785.
- $\beta$ -Phenylisopropyl alcohol**,  $\beta$ -amino-, and its salts (EMDE and RUNNE), 1909, A., i, 300.
- $\gamma$ -Phenylpropyl alcohol** (CHABLAY), 1907, A., i, 53.
- $\gamma$ -Phenylpropyl alcohol**, *p*-hydroxy- (*homotirosol*), and its dibenzoyl derivative (v. BRAUN and DEUTSCH), 1912, A., i, 846.
- az*-tri-hydroxylamino-** ( *$\beta$ -hydroxylaminodihydrocinnamhydroxam-oxime hydrate*) and its reactions (POSNER), 1907, A., i, 212.
- Phenylpropylacetic acid** ( *$\alpha$ -phenylvaleric acid*), resolution of, and *l*-methylamine salt (PICKARD and YATES), 1909, T., 1017; P., 152.
- derivatives of (FARBENFABRIKEN VORM. F. BAYER & Co.), 1912, A., i, 974.
- $\alpha$ -Phenylpropylamine** and its derivatives (BUSCH and LEEFHELM), 1908, A., i, 152.
- Phenylisopropylamine**, *p*-hydroxy-, and 3:4-*di*hydroxy- (MANNICH and JACOBSON), 1910, A., i, 167.
- and its hydriodide (ROSENEMUND, MANNICH, and JACOBSON), 1912, A., i, 443.
- 3:4-*di*hydroxy- and its salts (ROSENEMUND, MANNICH, and JACOBSON), 1912, A., i, 967.
- Phenylpropylaniline**, 2:4-*d*initro-, synthesis of (MULDER), 1906, A., i, 492.
- 5-Phenyl-5-propylbarbituric acid** (FARBENFABRIKEN VORM. F. BAYER & Co.), 1912, A., i, 1025.
- 3-Phenyl-4-*p*-isopropylbenzylideneisoxazolone** (MEYER), 1912, A., i, 1019.
- Phenylpropylbutylene** (AMOUROUX and MURAT), 1912, A., i, 415.
- $\gamma$ -Phenylpropylcamphor** (RUPE and FRISSELL), 1905, A., i, 221.

- Phenylcyclopropyl-carbamide and -thio-carbamide** (KIJNER), 1905, A., i, 517.
- Phenylpropylcarbinol and its chloride** (KLAGES), 1904, A., i, 568.
- Phenylpropylcarbinyl ether** (ODDO and DEL ROSSO), 1911, A., i, 443.
- $\gamma$ -Phenylpropyldiethylamine and its picrate and platinichloride** (v. BRAUN), 1911, A., i, 36.
- $\gamma$ -Phenylpropyldimethylamine, *p*-amino-, *o*- and *p*-hydroxy-, and *p*-nitro-, and their salts and derivatives** (v. BRAUN and DEUTSCH), 1912, A., i, 845.
- $\gamma$ -Phenylpropyldipropylamine and its picrate and platinichloride** (v. BRAUN), 1911, A., i, 36.
- Phenylpropylene.** See Allylbenzene.
- Phenylpropylenes,  $\alpha$ - and  $\gamma$ -**, and the reversible isomeric process taking place between, on heating with anhydrous alkali hydroxide (AGEEWA), 1905, A., i, 776.
- $\beta$ -Phenylpropylene  $\alpha\beta$ -glycol and its anhydride** (STOERMER, SCHENCK ZU SCHWEINSBERG, SIBBERN-SIBBERS, and RIEBEL), 1906, A., i, 582.
- $\alpha$ -Phenylpropylene  $\alpha\beta$ -glycols, benzoyl derivatives of** (ZINCKE and ZAHN), 1910, A., i, 316.
- $\alpha$ - and  $\beta$ -Phenylpropylene  $\alpha\beta$ -glycols, and their transformation products** (TIFFENEAU), 1907, A., i, 405.
- Phenylpropylene oxide** (FOURNEAU and TIFFENEAU), 1905, A., i, 591.
- $\beta$ -Phenylpropylene  $\alpha\beta$ -oxide** (RIEDEL), 1908, A., i, 957.
- $\gamma$ -Phenyl- $\alpha$ -isopropyleneparaconic acid, *p*-chloro-** (STOBBE and WAHL), 1911, A., i, 374.
- $\gamma$ -Phenylpropylethylamine** (v. BRAUN), 1911, A., i, 36.
- $\gamma$ -Phenylpropylethylcyanamide** (v. BRAUN), 1911, A., i, 36.
- $\alpha$ -Phenyl- $\alpha$ -cyclopropylethylene** (KIJNER), 1911, A., i, 990.
- 1-Phenyl-4-isopropylhydantoin, 2-thio-** (BRAUTLECHT), 1911, A., i, 922.
- Phenylisopropylhydantoins, *d*- and *l*-** (FISCHER, MATSUBARA, and HILPERT), 1906, A., i, 561.
- $\beta$ -Phenyl- $\beta$ -*n*-propylhydracrylic acid and its silver salt** (SCHROETER and BUCHHOLZ), 1908, A., i, 170.
- Phenylpropyldienemalononic acid, dibruceine salt and its rotatory power** (HILDITCH), 1909, T., 1575; P., 214.
- Phenyl propyl ketone (*butyrophenone*)**  $\gamma$ -amino-, *N*-benzoyl derivative (GABRIEL and COLMAN), 1908, A., i, 275.
- Phenyl propyl ketone (*butyrophenone*)**, *p*-amino-, and its derivatives (KUNCKELL), 1911, A., i, 990.
- $\alpha\beta$ -dibromo-** (KOHLEK), 1909, A., i, 939.
- Phenyl isopropyl ketone (*isobutyrophenone*)**, preparation, properties and derivatives of (LAPWORTH and STEELE), 1911, T., 1882; P., 239.
- Phenyl isopropyl ketone,  $\alpha$ -amino-**, and its salts (GABRIEL), 1911, A., i, 212.
- derivatives of (GABRIEL), 1911, A., i, 991.
- $\alpha$ -Phenylpropylmalonic acid, and its ethyl ester** (REYNOLDS), 1910, A., i, 858.
- $\gamma$ -Phenylpropylmalonic acid and its ethyl ester** (v. BRAUN and KRUBER), 1912, A., i, 265.
- and its methyl ester (BORSCHKE), 1912, A., i, 264.
- $\gamma$ -Phenylpropylmethylamine and its derivatives** (v. BRAUN), 1911, A., i, 36.
- $\alpha$ -Phenylpropyl-methyl- and -ethylamines and their hydrochlorides** (BUSCH and LEEFHELM), 1908, A., i, 153.
- Phenylcyclopropylmethylcarbinol** (KIJNER), 1911, A., i, 989.
- $\gamma$ -Phenylpropylmethylcyanamide** (v. BRAUN), 1911, A., i, 35.
- $\alpha$ -Phenylpropyl methyl ketone and its semicarbazone** (TIFFENEAU), 1906, A., i, 966.
- $\beta$ -Phenylpropyl methyl ketone and its oxime** (KOHLEK), 1907, A., i, 1050.
- $\beta$ -Phenylisopropyl nitrophenylsulphone** (FROMM and WITTMANN), 1908, A., i, 632.
- 5-Phenyl-3-propylisooxazole** (MOUREU and BRACHIN), 1904, A., i, 96.
- $\beta$ -Phenyl- $\alpha$ -isopropylpropionic acid,  $\beta$ -cyano-** (AVERY and UPSON), 1908, A., i, 343.
- $\gamma$ -Phenylpropylpropylamine and its picrate and its platinichloride** (v. BRAUN), 1911, A., i, 36.
- Phenylpropylisopropylcarbinol and its chloride** (KLAGES and HAEN), 1904, A., i, 497.
- $\gamma$ -Phenylpropylpropylcyanamide** (v. BRAUN), 1911, A., i, 36.
- 5-Phenyl-3-propylpyrazole and its picrate** (MOUREU and BRACHIN), 1904, A., i, 824.
- 1-Phenyl-3-propylpyrazoline** (MAIRE), 1908, A., i, 291.



- 1-Phenyl-3-propylpyrazolone (BOUE-AULT and BONGERT), 1903, A., i, 144.
- 4-Phenyl-2-propylquinoline, 7-hydroxy- (BULOW and ISSLER), 1904, A., i, 191.
- $\beta$ -Phenyl- $\alpha$ -isopropylsuccinic acid (AVERY and UPSON), 1908, A., i, 343.
- Phenylpropylthiocarbamide (V. BRAUN and DEUTSCH), 1912, A., i, 694.
- Phenylpropylthiocarbimide (V. BRAUN and DEUTSCH), 1912, A., i, 693.
- $\gamma$ -Phenylpropylthiourethane (V. BRAUN), 1912, A., i, 552.
- 1-Phenyl-3-propyl-1:2:4-triazole, 5-hydroxy-, and its acetyl and  $\alpha\beta$ -dibromo-derivatives (RUPE and METZ), 1903, A., i, 536.
- 1-Phenyl-3-propyl-1:2:4-triazol-5-one-4-carboxylamide (RUPE and METZ), 1903, A., i, 536.
- $\gamma$ -Phenylpropyltrimethylammonium bromide and its platinichloride (V. BRAUN), 1911, A., i, 35.
- Phenylisopropyltrimethylammonium, *p*-hydroxy-, and *di*hydroxy-, iodides (ROSENMUND), 1911, A., i, 34.
- 1-Phenyl-2-*n*- and -*iso*-propylurazole and their silver salts (BRUNEL and ACREE), 1910, A., i, 521.
- 1-Phenyl-4-*n*-propylurazole (BRUNEL and ACREE), 1910, A., i, 521.
- $\alpha$ -Phenyl- $\alpha$ -propylvaleramide (FARBENFABRIKEN VORM. F. BAYER & CO.), 1912, A., i, 974.
- $\alpha$ -Phenyl- $\alpha$ -*n*-propylvaleronitrile (BODROUX and TABOURY), 1910, A., i, 482; (FARBENFABRIKEN VORM. F. BAYER & CO.), 1912, A., i, 974.
- 2-Phenylpurine, 6-chloro- (TRAUBE and HERRMANN), 1904, A., i, 634.
- 3-Phenylpyrazo*isocoumarazone*, and 4-bromo- and 4-chloro- (MICHAELIS and LEO), 1910, A., i, 515.
- 1-Phenylpyrazole, 4-bromo- and 4-chloro- (DIECKMANN and PLATZ), 1905, A., i, 117.
- 3:5-dibromo-, 3:4:5-tribromo-, 5-chloro-, 5-chloro-4-bromo-, 4:5-dichloro-, 3:5-dichloro-4-bromo-, 3:4:5-trichloro-, and their salts (MICHAELIS and WALTER), 1911, A., i, 1040.
- 3-Phenylpyrazole, 5-*mono*- and 4:5-dichloro-, 5-chloro-4-bromo-, 5-chloro-4-bromo-3-nitro-, and 5-chloro-3-nitro- (MICHAELIS and RASSMANN), 1907, A., i, 246.
- 4-Phenylpyrazole, reduced derivatives (BUCHNER and PERKEL), 1904, A., i, 101.
- Phenylpyrazoles, azo-compounds of, and their halogen and thio-derivatives (MICHAELIS, LEONHARDT, WAHLE, SIMON, and BEHRENS), 1905, A., i, 392.
- 3-Phenylpyrazole-1-acetic acid, 5-chloro-, and its salts and 5-chloro-4-bromo- (MICHAELIS and SCHMIDT), 1910, A., i, 641.
- 1-Phenylpyrazole-3-acetic-4-carboxylic acid and *p*-bromo-, and their salts and ethyl esters (WISLIGENUS and BREIT), 1907, A., i, 967; (WISLIGENUS and BYWATERS), 1907, A., i, 968.
- 1-Phenylpyrazole-4-azobenzene, 3-*mono*- and 3:5-*di*-chloro- (MICHAELIS and SIMON), 1905, A., i, 395.
- 1-Phenylpyrazole-4-*p*-azotoluene, 3-chloro-, and its 5-sulphide, 3:5-*di*-chloro-, and 3-chloro-5-iodo-, 3-thio-alkyl, 3-methylsulphone, and 3-thio-benzoate (MICHAELIS and SIMON), 1905, A., i, 395.
- 1-Phenylpyrazole-3-carboxylic acid, 5-chloro-, 4:5-dichloro-, and 5-chloro-4-bromo-, and their salts and derivatives (MICHAELIS and WALTER), 1911, A., i, 1039.
- 1-Phenylpyrazole-4-carboxylic acid and *p*-bromo-, ethyl esters (WISLIGENUS and BREIT), 1907, A., i, 967; (WISLIGENUS and BYWATERS), 1907, A., i, 968.
- 1-Phenylpyrazole-2'-carboxylic acid, 5-chloro- (MICHAELIS and ZIESEL), 1910, A., i, 513.
- 5-Phenylpyrazole-3-carboxylic acid and its ethyl ester, hydrazide, and hydrazine derivative (BÜLOW), 1904, A., i, 623.
- 1-Phenylpyrazole-3:4-dicarboxylic acid (BAUER and DIETERLE), 1911, A., i, 922.
- 1-Phenylpyrazole-3-glyoxylic acid, 5-hydroxy-, ethyl ester, arylhydrazones of (BÜLOW and GÖLLER), 1911, A., i, 1043.
- 4-Phenylpyrazolidine-3:5-dicarboxylic acid and its ethyl ester (BUCHNER and PERKEL), 1904, A., i, 101.
- 5-Phenyl-3-pyrazolidone, 1-nitroso- (MUCKERMANN), 1909, A., i, 839. and its salts (MUCKERMANN), 1911, A., i, 682.
- 3-Phenylpyrazoline, 5-imino-, and its salts (MOUREU and LAZENNEC), 1907, A., i, 159.
- 4-Phenylpyrazoline and its salts (BUCHNER and PERKEL), 1904, A., i, 101. and its platinichloride (OLIVERI-MANDALÀ), 1910, A., i, 433.

- Phenylpyrazoline ketone (AZZARELLO), 1905, A., i, 941.
- 3-Phenylpyrazoline-5-carboxylic acid and its bromo-derivative (BOUGAULT), 1909, A., i, 102.
- 3-Phenylpyrazolone, compound of trinitrobenzene and (SUDBOROUGH and BEARD), 1910, T., 797.
- 1-Phenyl-3-pyrazolone, preparation of (MICHAELIS and REMY), 1907, A., i, 445.
- 1-Phenyl-3-pyrazolone, amino- (KÜMMEL and REMY), 1909, A., i, 423.
- 1-Phenyl-5-pyrazolone, *p*-bromo-3-hydroxy-, and 3-hydroxy- (MICHAELIS and SCHENK), 1907, A., i, 966.
- 3-hydroxy- and its imide and 4-amino-derivative (CONRAD and ZART), 1906, A., i, 608.
- nitro-, reduction of (KÜMMEL and REMY), 1909, A., i, 422.
- 1-Phenyl-5-pyrazolone-4-azobenzene, 3-chloro- and 3-chloro-5-thio- (MICHAELIS and SIMON), 1905, A., i, 395.
- 1-Phenyl-5-pyrazolone-4-*p*-azotoluene, 3-chloro- and 3-chloro-5-thio- (MICHAELIS and SIMON), 1905, A., i, 396.
- 3-Phenylpyrazolone-1-carboxylamide (BORSCHKE and SPANNAGEL), 1904, A., i, 779.
- 1-Phenyl-5-pyrazolone-3-carboxylic acid (RUHEMANN), 1907, T., 1364; P., 196.
- 1-Phenyl-5- and -*o*-3-pyrazolonecarboxylic acids, anhydrides of (MICHAELIS), 1910, A., i, 512.
- 1-Phenyl-5-pyrazolone-3:4-dicarboxylic acid, 4-methyl ester, and its phenylhydrazide (RUHEMANN), 1907, T., 1363; P., 196.
- 1-Phenylpyrazoquinazoline, 7-amino-, 7-chloro-, 4:7-dichloro-, and 7-hydroxy-, and its salts (MICHAELIS and LEO), 1910, A., i, 515.
- 4-Phenylpyridazine and its platinichloride (STOERMER and FINCKE), 1909, A., i, 842.
- 4-Phenylpyridazine, *p*-hydroxy-, and its -5-carboxylic acid (STOERMER and GAUS), 1912, A., i, 1027.
- 4-Phenylpyridazine-5-carboxylic acid (STOERMER and FINCKE), 1909, A., i, 842.
- 3-Phenylpyridazine-6-carboxylic acid (PAAL and DENCKS), 1903, A., i, 289.
- 4-Phenylpyridazine-5:6-dicarboxylic acid (4-phenylcinnolinic acid) and its barium and silver salts (STOERMER and FINCKE), 1909, A., i, 842.
- 1-Phenyl-5-pyridazinone-4-carboxylic acid and its ethyl ester (WISLICENUS, BÖKLEN, and REUTHE), 1909, A., i, 10.
- 1-Phenyl-6-pyridazinone-3-carboxylic acid (WISLICENUS and WALDMÜLLER), 1911, A., i, 603.
- Phenylpyridazonanthrone and 5-amino- and *p*-bromo- (ÜLLMANN and VAN DER SCHALK), 1912, A., i, 387.
- Phenylpyridazonanthrone, 4-amino-, and 4-chloro- (ÜLLMANN and MINAJEFF), 1912, A., i, 388.
- Phenylpyridazonanthrone-*p*-sulphonic acid and its sodium salt (ÜLLMANN and VAN DER SCHALK), 1912, A., i, 387.
- Phenylpyridines, oxidation of (TSCHITSCHIBABIN), 1904, A., i, 524.
- Phenylpyridinium chloride and dinitro-, and its products of change (ZINCKE), 1904, A., i, 448; (ZINCKE, HEUSER, and MÖLLER), 1904, A., i, 921.
- Phenylpyridinium chloride, chloro- (ZINCKE and WÜRKER), 1905, A., i, 242.
- 3-chloro-, and its platinichloride (DIECKMANN), 1905, A., i, 411.
- p*-chloro-3-hydroxy-, and its platinichloride (DIECKMANN, BECK, and SZELINSKI), 1906, A., i, 110.
- 3-hydroxy-, and its additive salts (ZINCKE and MÜHLHAUSEN), 1906, A., i, 33; (KÖNIG; DIECKMANN, BECK, and SZELINSKI), 1906, A., i, 109.
- dinitro-, and its transformation products (ZINCKE), 1905, A., i, 467; (ZINCKE and SCHREYER), 1907, A., i, 625.
- action of aliphatic amines on (ZINCKE and WÜRKER), 1905, A., i, 923.
- action of secondary aromatic amines on (ZINCKE and WÜRKER), 1905, A., i, 241.
- action of, on benzidine and its sulphonic acids (REITZENSTEIN and ROTHSCHILD), 1906, A., i, 454.
- action of hydrogen sulphide on (ZINCKE and WEISSPENNING), 1912, A., i, 302.
- action of, on mercuriated amines (REITZENSTEIN and STAMM), 1910, A., i, 348.
- 2:6-dinitro- (BORSCHKE and RANTSCHKE), 1911, A., i, 331.
- 2:4:6-trinitro-, preparation and derivatives of (ZINCKE), 1912, A., i, 303.
- 4:6-dinitro-3-amino- (ZINCKE and WEISSPENNING), 1910, A., i, 586.
- Phenylpyridinium salts, *m*-chloro-, and 3-chloro-2:4:6-tribromo- (KÖNIG), 1911, A., i, 485.

- $\alpha$ -Phenyl- $\delta$ -4-pyridylbutadiene** and its aurichloride and mercurichloride (PROSKE), 1909, A., i, 413.
- Phenylpyridylcarbinols**,  $\alpha$ - and  $\gamma$ -, and their platinichlorides (TSCHITSCHIBABIN), 1904, A., i, 523.
- Phenylpyridyldimethylolmethanes**, 2- and 4-, and their salts (TSCHITSCHIBABIN), 1904, A., i, 524.
- $\alpha$ -Phenyl- $\beta$ -pyridyl-ethylene glycol**, -vinyl alcohol, and -ethanedione, and their salts and acyl derivatives (LADENBURG and KROENER), 1903, A., i, 275.
- $\alpha$ -Phenyl- $\alpha$ -2- and -4-pyridylethylenes** and their salts (TSCHITSCHIBABIN), 1904, A., i, 524.
- Phenyl-4-pyridylmethylolmethane** and its platinichloride (TSCHITSCHIBABIN), 1904, A., i, 525.
- 2-Phenylpyrimidine**, 4-*mono*- and 4:5-*di*-amino-6-hydroxy-, and their salts (TRAUBE and HERRMANN), 1904, A., i, 633.
- 5-bromo-4:6-*di*hydroxy-, and its acetates, 4:6-*di*hydroxy- (PINER), 1908, A., i, 1017.
- 5-nitro- (HALE and BRILL), 1912, A., i, 217.
- 4-Phenylpyrimidine**, 2-cyanoamino-6-hydroxy- (POHL), 1908, A., i, 577.
- Phenylpyrocinchonimide**, *p*-hydroxy- (PIUTTI and ABATI), 1910, A., i, 674.
- Phenylpyromykuric acid** and its barium salt (BAUM), 1904, A., i, 910.
- 4-Phenyl- $\alpha$ -pyrone**, 6-hydroxy-, and its salts (BLAND and THORPE), 1912, T., 869.
- 6-Phenyl-2-pyrone-3-carboxylic acid**, ethyl ester (CLAISEN), 1904, A., i, 14.
- 6-Phenylpyrophthaline** and its *N*-alkyl derivatives (GAEBELÉ), 1904, A., i, 89.
- 6-Phenylpyrophthalone** and its bromo-derivatives and reduction product (GAEBELÉ), 1904, A., i, 89.
- Phenylpyrrole**, compounds of, with formaldehyde and propaldehyde (COLACICCHI and BERTONI), 1912, A., i, 653.
- 1-Phenylpyrrole**, 2:3:4:5-*tetra*chloro- (OKADA), 1905, A., i, 875.
- 2-Phenylpyrrole-4:5-dicarboxylic acid** (BORSCHKE and SPANNAGEL), 1904, A., i, 779.
- 2-Phenylpyrrolidine** and its additive salts (GABRIEL and COLMAN), 1908, A., i, 275.
- 1-Phenylpyrrolidine-2:5-dicarboxylic acid**, formation of, from adipic acid, and its methyl and ethyl esters, barium, and silver salts, and mono-anilide (LE SUEUR), 1909, T., 273; P., 36.
- 2-Phenylpyrroline** (GABRIEL and COLMAN), 1908, A., i, 275.
- Phenylpyruvic acid**, condensation of, with aldehydes (ERLENMEYER and KEHREN), 1904, A., i, 1015; (ERLENMEYER and BRAUN), 1904, A., i, 1016.
- condensation of, with benzaldehyde (ERLENMEYER), 1905, A., i, 784.
- brucine salt (HILDITCH), 1911, T., 235.
- Phenylpyruvic acid**, *p*-chloro- (FRIEDMANN and MAASE), 1910, A., ii, 795.
- o*-hydroxy- (ERLENMEYER and STADLIN), 1905, A., i, 239.
- p*-hydroxy-, behaviour of, in the animal body (KOTAKE), 1911, A., ii, 59.
- behaviour of, in the liver (SCHMITZ), 1910, A., ii, 984.
- 2:5-*di*hydroxy-, and its anhydride, synthesis of (NEUBAUER and FLATOW), 1907, A., i, 772.
- 2-Phenylquinazoline**, 4-hydroxy-, synthesis of (PAWLEWSKI), 1903, A., i, 721.
- 3-Phenyl-4-quinazolone-2-carboxylic acid**, methyl and ethyl esters (BOGERT and GORTNER), 1910, A., i, 284.
- 2-Phenylquinoline** (MURMANN), 1904, A., i, 818, 926.
- salts of a monosulphonic acid of (MURMANN), 1911, A., i, 157.
- methochloride (KAUFMANN and PLÁ Y JANINI), 1911, A., i, 916.
- 2-Phenylquinoline**, 3-(or 4)-bromo- (FREUND and SPEYER), 1905, A., i, 157.
- 7-hydroxy- (BORSCHKE), 1909, A., i, 53.
- 3-Phenylquinoline derivatives** (HÜBNER), 1908, A., i, 288.
- 1-Phenylisoquinoline** and its hydrochloride and platinichloride (PICTET and GAMS), 1910, A., i, 774.
- 3-Phenylisoquinoline**, 1-chloro-4-hydroxy-, and its methyl and ethyl ethers, and 1:4-*di*chloro- (ULRICH), 1904, A., i, 529.
- 2-Phenylquinoline-3-carboxylic acid**, 4-hydroxy-, ethyl ester (v. NIEMEN-TOWSKI), 1905, A., i, 611; 1906, A., i, 39.



- 2-Phenylquinoline-4-carboxylic acid**, ethylglycyl ester (CHEMISCHE FABRIK AUF AKTIEN VORM. E. SCHERING), 1912, A., i, 1018.
- $\beta$ -naphthyl and phenyl esters** (CHEMISCHE FABRIK AUF AKTIEN VORM. E. SCHERING), 1912, A., i, 582.
- 9-Phenylquinothioxanthenyli**, chloride hydrochloride, 4-bromo-, bromide hydrobromide, and 4-chloro-, chloride hydrochloride (GOMBERG and CONE), 1910, A., i, 870.
- 2-Phenylquinoxaline-3-carboxylic acid** and hydroxy-, and its lactone (FISCHER and SCHINDLER), 1906, A., i, 609.
- ethyl ester, and its dianilide and disemicarbazone (WAHL), 1907, A., i, 217.
- Phenylquinoxalines**, synthesis of (FISCHER and RÖMER), 1908, A., i, 694.
- Phenylquinoxanthanol**, bromide hydrobromide, *p*-bromo- (CONE and WEST), 1911, A., i, 806.
- chloride hydrochloride, and *p*-bromo- and *p*-chloro- (GOMBERG and CONE), 1910, A., i, 56.
- 3-Phenylrhodanic acid** (V. BRAUN), 1903, A., i, 15; (ANDREASCH and ZIPSER), 1903, A., i, 855.
- and its condensation with aldehydes, and *o*-hydroxy- (ANDREASCH and ZIPSER), 1905, A., i, 931.
- N*-Phenylrhodanine**, *p*-bromo- (HOLMBERG), 1910, A., i, 361.
- Phenylrosinduline**, trihydroxy- (KALLE & Co.), 1905, A., i, 554, 840.
- Phenylrosindulines**, hydroxy- (KALLE & Co.), 1906, A., i, 314.
- Phenylsalicylaldoxime** (PLANCHER and PICCININI), 1905, A., i, 705.
- 4-Phenylsalicylic acid**, *p*-hydroxy-, and its salts (FAURE), 1905, A., i, 350.
- 1-Phenyl-4-salicylidenehydantoin**, 2-thio- (WHEELER and BRAUTLECHT), 1911, A., i, 501.
- 3-Phenyl-4-salicylideneisooxazolone**, acetyl derivative (MEYER), 1912, A., i, 1017.
- Phenylsalicylidene-*p*-phenylenediamine**, hydrochlorides of (MOORE and WOODBRIDGE), 1908, A., i, 686.
- Phenyl-selenious and -selenic acids** and their salts (STOECKER and KRAFFT), 1906, A., i, 568.
- Phenylsemicarbazide**, conditions of formation of (MILRATH), 1908, A., i, 572.
- Phenylsemicarbazide**, action of, on phthalic anhydride (DUNLAP), 1905, A., i, 830.
- Phenylsemicarbazide**, *p*-amino-, and its hydrochloride and benzyldiene derivative (BORSCHÉ and RECLAIRE), 1907, A., i, 988.
- $\alpha$ -Phenylsemicarbazide**. See Phenylcarbamide, amino-.
- 2-Phenylsemicarbazide** (BUSCH and WALTER), 1903, A., i, 522.
- 4-Phenylsemicarbazide**, action of carbodi-imides on (BUSCH and BLUME), 1907, A., i, 261.
- Phenylsemicarbazide- $\alpha$ -carboxylic acid**, ethyl ester (ACREE), 1904, A., i, 453.
- $\alpha$ -Phenylsemicarbazido- $\alpha$ -acetic acid** and its ethyl ester, and their  $\delta$ -ethyl derivative (BUSCH, SCHNEIDER, and WALTER), 1904, A., i, 97.
- 4-Phenylsemithiocarbazide**, reaction of, with triphenylguanidine (SCHALL), 1903, A., i, 201.
- Phenylserine**, fate of, in the animal organism (DAKIN), 1909, A., ii, 684.
- Phenylserines**, isomeric (ERLENMEYER and BARKOW), 1906, A., i, 237.
- Phenylsilicon compounds** (DILTNEY and EDUARDOFF), 1904, A., i, 464.
- Phenylstibinic acid**, *m*-amino-, and its derivatives (MAY), 1912, T., 1036; P., 5.
- m*-nitro- (MORGAN and MICKLETHWAIT), 1911, T., 2295; P., 274.
- $\alpha$ -Phenylstilbene** (HELL and WIEGANDT), 1904, A., i, 490.
- $\alpha$ -Phenylstyrylacrylic acid**, methyl ester (POSNER and ROHDE), 1910, A., i, 848.
- $\beta$ -Phenylstyryl anisyl ketone** and bromo- (KOHLER), 1907, A., i, 1053.
- s*-Phenylstyrylcarbamide** (FORSTER), 1909, T., 439.
- Phenylstyryldichloromethane** (STAUDINGER), 1909, A., i, 906.
- 3-Phenyl-5-styryldihydroisooxazole** and dibromo- (CIUSA and TERNI), 1911, A., i, 918.
- 3-Phenyl-2-styryl-4-dihydroquinazoline** (BOGERT and BEAL), 1912, A., i, 394.
- 5-Phenyl-4-styryldihydroureacil** (POSNER and ROHDE), 1910, A., i, 848.
- $\delta$ -Phenyl- $\alpha$ -styrylfulgide** (STOBBER, BENARY, and SEYDEL), 1911, A., i, 380.
- 3-Phenyl-5-styryl- $\Delta^5$ -cyclohexenone** and its isomeride (BORSCHÉ), 1910, A., i, 683.
- Phenyl styryl ketone** (benzyldieneacetophenone) (MAYER), 1905, A., i, 214.
- catalytic reduction of (FRÉZOUIS), 1912, A., i, 629.

**Phenyl styryl ketone** (*benzylidenacetophenone*), condensation of, with benzylideneaniline hydrocyanide (CLARKE and LAPWORTH), 1907, T., 704; P., 90.

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*di*bromide, and *p*-nitro-, action of alcoholic potash on (RUHEMANN and WATSON), 1904, T., 456; P., 48.

*p*-nitro-, and its piperazine and acetal (WIELAND), 1904, A., i, 432.

hydrochloride and its compound with benzaldehyde and dipicrate (VORLÄNDER, ROLLE, and SIEBERT), 1905, A., i, 793.

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$\alpha$ -,  $\beta$ -, and  $\gamma$ -semicarbazones (HEILBRON and WILSON), 1912, T., 1482; P., 192.

**Phenyl styryl ketone**, amino- (RUHEMANN and WATSON), 1904, T., 1181, 1323; P., 176, 181.

*m*- and *p*-amino-, and their acetyl derivatives and oxime, and oximido-oxime of the *p*-compound (RUPE and PORAI-KOSCHITZ), 1906, A., i, 754.

5-amino-2-hydroxy-, *N*-mono- and tri-acetyl derivatives (KUNCKELL), 1904, A., i, 750.

$\beta$ -bromo-, action of alkalis and bases on (WATSON), 1904, T., 1322; P., 181.

*p*-bromo- (KÖHLER, HERITAGE, and BURNLEY), 1910, A., i, 563.

5-chloro-2-hydroxy-, and its dibromide (KUNCKELL and FÜRSTENBERG), 1912, A., i, 118.

2-hydroxy-, action of hydrochloric acid on (PERKIN, ROBINSON, and TURNER), 1908, T., 1110.

*op*-*di*hydroxy- (2':4'-*di*hydroxychalkone) (BARGELLINI and MARANTONIO), 1908, A., i, 801.

2:3:4-*tri*hydroxy- (DUTTA and WATSON), 1912, T., 1240; P., 106.

**Phenyl styryl ketone**, 2':4':2-*tri*hydroxy- (GÖSCHKE and TAMBOR), 1912, A., i, 195.

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$\alpha$ -nitro- (WIELAND), 1903, A., i, 767, 836.

*m*-nitro- (RUHEMANN), 1903, T., 1377; P., 246.

$\beta$ -*p*-*dinitro*- (WIELAND), 1903, A., i, 767.

**Phenyl styryl ketoximes**, stereoisomeric (HENRICH, RAAB, and RUPPENTHAL), 1907, A., i, 324.

**5-Phenyl-2-styryloxazole** (LISTER and ROBINSON), 1912, T., 1303.

**3-Phenyl-5-styrylisoxazole** (CIUSA and TERNI), 1911, A., i, 918.

**8-Phenyl-8-styrylpropiophenone** and its dibromide and oxime (KÖHLER), 1905, A., i, 358.

**1-Phenyl-5-styrylpyrazoline-3-propionic acid** (RUPE and SPEISER), 1905, A., i, 351.

*s*-Phenylstyrylsemicarbazide (FORSTER), 1909, T., 439.

**1-Phenyl-3- $\beta$ -styrylvinyl-5-anisylpyrazoline** (BAUER and DIETERLE), 1911, A., i, 921.

**1-Phenyl-3- $\beta$ -styrylvinyl-5-furylpyrazoline** (BAUER and DIETERLE), 1911, A., i, 922.

**3-Phenyl-5- $\beta$ -styrylvinylcyclohexan-5-ol-1-one-2-carboxylic acid**, ethyl ester (BORSCHKE), 1910, A., i, 684.

**3-Phenyl-5- $\beta$ -styrylvinyl- $\Delta^6$ -cyclohexen-1-one-2-carboxylic acid**, ethyl ester (BORSCHKE), 1910, A., i, 685.

**Phenylsuccinamic acid**, amine salts of (KOMATSU), 1909, A., i, 483.

**Phenylsuccinic acid** and its esterification, and potassium hydrogen salt and imide (WEGSCHEIDER and HECHT), 1903, A., i, 760.

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**Phenylsuccinic acid**, *o*- and *p*-nitro-, and *p*-amino-, acetyl derivative (FICHTER and WALTER), 1910, A., i, 29.

**Phenyl-succinic acid** and -succinanilic acids, and -succinanil and -succino-*p*-tolil (HANN and LAPWORTH), 1904, T., 1365; P., 183.

**Phenylsuccinic anhydride** (DEHN and THORPE), 1906, T., 1882; P., 283.

**Phenylsulphinic acid**, *o*-nitro-, and its esters (ZINCKE and FARR), 1912, A., i, 764.

**Phenylsulphinous acid**, *o*-nitro-, esters (ZINCKE and FAER), 1912, A., i, 763.

**Phenylsulphohydrazide**, *di*-*o*-nitro- (CLAASZ), 1911, A., i, 695.

**Phenylsulphon-**. See Benzenesulphon-

**Phenylsulphonamic acid**, chloroamino-, sodium salt (SEYEWETZ and NOEL), 1908, A., i, 409.

**Phenylsulphoneacetic acid**, *o*-nitro-, ethyl ester (CLAASZ), 1912, A., i, 514.  
and 2:4-*d*-nitro-, and its lead salt (CLAASZ), 1912, A., i, 390.

*o*-**Phenylsulphonebenzoic acid**, 2':4'-*di*-nitro- (MAYER), 1910, A., i, 262.

**$\beta$ -Phenylsulphone- $\alpha\beta$ -diphenylpropionic acid** (POSNER and BAUMGARTH), 1908, A., i, 21.

**$\beta$ -Phenylsulphone- $\beta$ -phenylpropionic acid** (KÖHLER and REIMER), 1904, A., i, 234.  
and its ethyl ester, silver salt, amide, anilide, and *o'*-nitro-derivative (POSNER and BAUMGARTH), 1908, A., i, 21.

**$\beta$ -Phenylsulphone- $\beta$ -*o*-, -*m*-, and -*p*-tolylpropionic acids** (POSNER and BAUMGARTH), 1908, A., i, 22.

**Phenylsulphoxidephenylsulphone-methane** (HINSBERG), 1912, A., i, 546.

**Phenylsulphoxidoacetic acid** (PUMMERER), 1909, A., i, 580.  
and its ethyl ester (PUMMERER), 1910, A., i, 468.

**Phenylsulphoxidoacetic acid**, *o*-chloro- (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1910, A., i, 379.  
*o*-nitro-, ethyl ester (CLAASZ), 1912, A., i, 514.

**$\alpha$ -Phenylsulphoxidopropionic acid** (PUMMERER), 1910, A., i, 468.

**Phenylsulphuran**, *o*-nitro- (CLAASZ), 1912, A., i, 514.

**$\alpha$ -Phenyltarconine** (FREUND and LEDERER), 1911, A., i, 910.

**Phenyltartramic acid**, *m*-nitro-, compound with *m*-nitroaniline (TINGLE and BURKE), 1910, A., i, 21.  
*p*-nitro- (TINGLE and BURKE), 1910, A., i, 22.

**Phenyltartronic acid**, methyl and ethyl esters (GUYOT and ESTEVA), 1909, A., i, 237.

***N*-Phenyltetra-acetylhelicaldoxime** (SCHEIBER and KLOPPE), 1911, A., i, 383.

**Phenyltetrahydroberberine** (GADAMER and STEINBRECHER), 1911, A., i, 153.

**2-Phenyltetrahydronaphthalene** (SPÄTH), 1912, A., i, 979.

**Phenyltetrahydro-oxazolone** (SCHROETER), 1910, A., i, 431.

**1-Phenyltetrahydrophthalazine** and its additive salts and dibenzoyl derivative (LIECK), 1906, A., i, 51.

**2-Phenyltetrahydropyridine** and its additive salts (GABRIEL), 1908, A., i, 649.

**2-Phenyl-1:4:5:6-tetrahydropyrimidine** and its salts (BRANCH and TITHERLEY), 1912, T., 2342; P., 293.

**Phenyltetrahydropyrimidone** and its platinichloride (GABRIEL), 1908, A., i, 181.

**3-Phenyltetrahydro-4-quinazolone**, 2-thio- (FREUNDLER), 1904, A., i, 830.

**1-Phenyltetrahydro-2-quinoxalone**, 6-amino-, and its diacetyl derivative, and 6-nitro- (REISSERT and GOLL), 1905, A., i, 247.

**9-Phenyl-2:4:5:7-tetramethylacridine** (ULLMANN and WEINTRAUB), 1903, A., i, 519.

**Phenyltetramethyl $\delta$ -aminodiphenyl-methane**, 2:5- and 5:2-aminohydroxy-, 2:5-*di*hydroxy-, and 2- and 5-hydroxyl-amino- (PRUD'HOMME), 1907, A., i, 562.

**Phenyltetramethyl $\delta$ -*i*-*p*-aminotriphenyl-methylamine** (VILLIGER and KOPETSCHNI), 1912, A., i, 1031.

**1-Phenyl-3:4:5:6-tetramethyl-1:2:7-benzotriazole** (BÜLOW and HAAS), 1911, A., i, 88.

**$\alpha$ -Phenyl- $\beta\beta\beta\delta$ -tetramethylpentan- $\gamma$ -one** (HALLER), 1912, A., i, 270.

**2-Phenyl-3:4:4:6-tetramethyltetrahydro-1:3-oxazine** and its salts (KOHN), 1904, A., i, 934.

**4-Phenyltetraphenylethylene** and *tetra*-nitro- (NORRIS, THOMAS, and BROWN), 1911, A., i, 32.

**Phenyltetrazinedimethylmalonylic acid** and its methyl ester and salts (PERKIN), 1903, T., 1227.

**2-Phenyl-1-tetrazodiphenylglyoxaline** (BURIÁN), 1904, A., i, 354.

**5-Phenyltetrazole**, 1-hydroxy-, and its benzoyl, *p*-toluenesulphonyl, and  $\beta$ -naphthalenesulphonyl derivatives (FORSTER), 1909, T., 186; P., 25.

**1-Phenyltetronic acid** (DIMROTH and EBLE), 1907, A., i, 57.

**5-Phenyltetronic acid** and its ammonium and sodium salts (ANSCHÜTZ and BÖCKER), 1909, A., i, 730.

**$\alpha$ -Phenyl- $\alpha$ -thienylmethylcarbinol** (THOMAS), 1908, A., i, 360.

**Phenylthioacetamide**, *p*-amino-, and the action of hydrazine hydrate on (JUNGHAHN and BUNIMOWICZ), 1903, A., i, 131.



- Phenylthioacetanilide** (SACHS and LOEYV), 1904, A., i, 307.
- Phenylthioacetic acid** (JOHNSON, BATEMAN, PALMER, and BRAUTLECHT), 1906, A., i, 954.
- Phenylthioallophanic acid**, methyl ester (JOHNSON and ELMER), 1903, A., i, 752.
- 1-Phenylthioanthraquinone** (DECKER and WUERSCH), 1906, A., i, 689.
- 1-Phenyl-3-thiobenzyl-1:2:4-triazole**, 5-amino-, synthesis of, and its diacetyl derivative (FROMM and V. GÖNCZ), 1907, A., i, 873.
- 1-Phenyl-3- and -5-thiobenzyl-1:2:4-triazoles**, 5- and 3-amino-, and their acetyl derivatives (FROMM and SCHNEIDER), 1906, A., i, 714.
- Phenylthiobiuret**, *p*-bromo- (BÖESEKEN and COUVERT), 1910, A., i, 645.
- Phenylthiocarbamic acid**, allyl, menthyl and benzyl esters (ROSCHDESTVENSKY), 1910, A., i, 107.
- n*-butylester (DOURIS), 1911, A., i, 950.
- Phenylthiocarbamic acid**, phenylhydrazonium and piperidonium salts (LOSANITSCH), 1907, A., i, 694.
- phenyl ester (RIVIER), 1907, A., i, 838.
- Phenylthiocarbamide**, solubility of, in water, influence of foreign substances on the (BOGDAN), 1903, A., ii, 532.
- influence of inorganic salts on the solubility of (BILTZ), 1903, A., ii, 358.
- reaction of, with acid chlorides (DIXON and TAYLOR), 1908, T., 20.
- action of nitrous acid on (HAAGER and DOHT), 1906, A., i, 577.
- Phenylthiocarbamide**, amino- (PELLIZARI), 1907, A., i, 874.
- reactions of (ROLLA), 1908, A., i, 473.
- o*-, *m*-, and *p*-amino-, and their salts (FREERICHs and HUPKA), 1903, A., i, 655.
- Phenylisothiocarbamide**, reaction of, with acetyl chloride and benzyl chlorocarbonate (DIXON and HAWTHORNE), 1907, T., 128.
- 2-Phenylthiocarbamidoazo-*p*-toluene**, *m*-nitro- (BUSCH and BERGMANN), 1905, A., i, 309.
- $\beta$ -Phenylthiocarbamido- $\beta\delta$ -dimethylpentan- $\delta$ -ol** (KOHN), 1907, A., i, 899.
- 1-Phenylthiocarbamido-2:5-dimethylpyrrole-3:4-dicarboxylic acid**, ethyl ester (BÜLOW and SAUTERMEISTER), 1906, A., i, 314.
- 4-Phenylthiocarbamido-1-phenyl-5-methyl-3-pyrazolone** (MICHAELIS and KOTELMANN), 1907, A., i, 155.
- 1-Phenylthiocarbamido-2-phenyl-2:3-naphthaglyoxaline** (FRANZEN), 1906, A., i, 706.
- 5-Phenylthiocarbamido-1-phenyl-3-p-tolyldihydroglyoxaline**, 2-thio- (JOHNSON and BURNHAM), 1912, A., i, 305.
- 4-Phenylthiocarbamido-1-*p*-tolyl-5-methyl-3-pyrazolone** (MICHAELIS and KOTELMANN), 1907, A., i, 156.
- Phenylthiocarbamylglycollanilide** (HOLMBERG), 1912, A., i, 132.
- Phenylthiocarbamylglycollic acid** and its salts (HOLMBERG), 1912, A., i, 132.
- Phenylthiocarbazinoacetic acid** and its ethyl ester (BUSCH and MEUSSDÖRFFER), 1907, A., i, 449.
- Phenylthiocarbazinoacetic acid**, ethyl ester (ANDREASCH), 1907, A., i, 233.
- Phenylthiocarbimide** (*phenyl isothiocyanate*), action of, on carbamide and thiocarbamide (PIERONT), 1912, A., i, 752.
- action of diphenylmethylenediamine on (SENIER and SHEPHEARD), 1909, T., 498.
- action of, on ethyl malonate and on ethyl cyanoacetate (RUHEMANN), 1908, T., 621; P., 53.
- oxide, preparation and hydrolysis of (FROMM and HEYDER), 1909, A., i, 911.
- 5-Phenyl-1:2:3-thiodiazole** and its additive compounds and **4-carboxylic acid** and ethyl ester (WOLFF, KOPITZSCH, and HALL), 1904, A., i, 828.
- 4-benzoyl derivative (WIELAND and BLOCH), 1906, A., i, 466.
- 3-Phenyl-1:3:4-thiodiazole-5-one-2-anil** (BUSCH and LIMPACH), 1911, A., i, 334.
- Phenylthiodiazoline**, *endothio*-, and its 5-methyl derivative (BUSCH and SCHNEIDER), 1903, A., i, 534.
- N*-Phenylthiodiphenylamine (BARNETT and SMILES), 1910, T., 364.
- Phenylthioglycol-*p*-arsinic acid** (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1910, A., i, 452.
- Phenylthioglycollic acid**. See Phenylthiolacetic acid.
- Phenyl- $\psi$ -thiohydantoin**, *m*-nitro- (JOHNSON), 1903, A., i, 581.
- Phenyl- $\psi$ -thiohydantoinglyoxylic acid** (WHEELER and JAMIESON), 1903, A., i, 522.
- Phenylthiolacetic acid**, preparation of (KALLE & CO.), 1908, A., i, 605.
- dibromide (PUMMERER), 1909, A., i, 580.

- Phenylthiolacetic acid**, salts of (PARRAVANO and TOMMASI), 1909, A., i, 719.
- platinous salt (RAMBERG), 1906, A., i, 792.
- ethyl and methyl esters (PUMMERER), 1910, A., i, 468.
- Phenylthiolacetic acid**, *o*-amino-, and *o*-cyano- and its methyl ester and alkali salts (FRIEDLÄNDER and LASKE), 1907, A., i, 335.
- m*-amino-, acetyl derivative (KALLE & Co.), 1912, A., i, 452.
- α*-chloro- (PUMMERER), 1909, A., i, 581.
- 2:4-dichloro- (KALLE & Co.), 1912, A., i, 354.
- 3:4-dichloro- (KALLE & Co.), 1912, A., i, 557.
- p*-chloro-*o*-cyano- (KALLE & Co.), 1909, A., i, 252.
- o*-nitro-, and 2:4-dinitro- (CLAASZ), 1912, A., i, 389.
- ethyl ester (CLAASZ), 1912, A., i, 514.
- o*- and *p*-nitro- and 2:4-dinitro-, preparation of (KALLE & Co.), 1908, A., i, 940.
- α*-Phenyl-*α*-thiolalkyl-*δ*-dimethylpentan-*γ*-ones (POSNER), 1904, A., i, 323.
- Phenylthiolamine**, *o*-nitro-, and its derivatives (ZINCKE and FARR), 1912, A., i, 764.
- α*-Phenylthiol-*α*-amyl-, *α*-benzyl-, and *α*-ethyl-thiolpropionic acids (POSNER and HAZARD), 1903, A., i, 243.
- 1-Phenylthiolanthraquinone (GATTERMANN), 1912, A., i, 1002.
- 1-Phenylthiolanthraquinone, 4-amino-, and 4-thiocyano- (GATTERMANN), 1912, A., i, 1002.
- 1-Phenylthiolanthraquinone-2-carboxylic acid, *p*-chloro- (BADISCHE ANILIN- & SODA-FABRIK), 1912, A., i, 468.
- 1-Phenylthiolanthraquinone-5-, -6-, and -8-sulphonic acids and their derivatives, potassium salts (GATTERMANN), 1912, A., i, 1002.
- o*-Phenylthiolbenzoic acid, new preparation of (GOLDBERG), 1905, A., i, 59.
- o*-Phenylthiolbenzoic acid, 4'- and 5'-chloro-2'-nitro-, 2':4'-dinitro- and 2':4':6'-trinitro- and their methyl esters (MAYER), 1910, A., i, 261.
- p*-Phenylthiolbenzoic acid (*p*-phenylsulphidebenzoic acid) and its barium salt (WEEDON and DOUGHTY), 1905, A., i, 346.
- Phenylthiolbenzoylbenzoic acid** and its ammonium salt (SCHOLL and SEER), 1911, A., i, 558.
- Phenylthiolbenzylacetoacetic acid**, ethyl ester (RUHEMANN), 1905, T., 20.
- Phenylthiolbenzyl-acetone**, -acetyl-acetone, -benzoylacetone, and -benzylideneacetone (RUHEMANN), 1905, T., 20.
- Phenylthiolbenzyl-acetophenone**, -benzoylacetic acid, ethyl ester, and -deoxybenzoin (RUHEMANN), 1905, T., 464.
- 4-Phenylthiolbenzyl-1-phenyl-3-methyl-5-pyrazolone (RUHEMANN), 1905, T., 467; P., 123.
- 2-Phenylthiol-4-bromobenzoic acid (GOMBERG and CONE), 1910, A., i, 871.
- Phenylthiolcarbamic acid**, phenyl ester (RIVIER), 1907, A., i, 837.
- Phenylthioldimethylamine**, *o*-nitro- (ZINCKE and FARR), 1912, A., i, 764.
- Phenylthiolglucoside** and its tetra-acetyl derivative (FISCHER and DELBRÜCK), 1909, A., i, 365.
- Phenylthiolglucosides** (FISCHER and DELBRÜCK), 1909, A., i, 365.
- Phenylthiol-2-hydroxybenzoic acid** (HINSBERG), 1903, A., i, 252.
- Phenylthiol-lactoside** and its hepta-acetyl derivative (FISCHER and DELBRÜCK), 1909, A., i, 366.
- Phenylthiolmethylamine**, *o*-nitro- (ZINCKE and FARR), 1912, A., i, 764.
- 6-Phenylthiol-4-methyldihydro-2-pyrimidine, *m*-dinitro- (WHEELER and McFARLAND), 1909, A., i, 970.
- Phenylthiolmethylimine**, *o*-nitro- (ZINCKE and FARR), 1912, A., i, 764.
- 4-Phenylthiol-1-methylthiolanthraquinone (GATTERMANN), 1912, A., i, 1003.
- Phenylthiol-*α*- and -*β*-naphthalides**, *o*-nitro- (ZINCKE and FARR), 1912, A., i, 764.
- 2'-Phenylthiol-3:5-dinitrobenzoic acid (*phenylsulphide-6'-carboxylic acid*, 2':4'-dinitro-) *o*-hydroxy- (MAUTHNER), 1906, A., i, 448.
- Phenylthiolphenyldiphenetylsulphonium** platinichloride (HILDITCH), 1911, T., 1096.
- α*-Phenylthiolpropionic acid, ethyl ester (PUMMERER), 1910, A., i, 468.
- Phenylthioncarbamic acid**, phenyl ester (RIVIER), 1906, A., i, 948.
- S*-Phenylthionine, hydroxy-, and its hydroxide and salts (SMILES and HILDITCH), 1908, T., 1696.
- S*-Phenylisothionine chloride and hydroxide, hydroxy- (SMILES and HILDITCH), 1908, T., 1699.
- Phenylthionoxamides** (REISSERT), 1904, A., i, 991.
- Phenylthionylacetic acid**, *o*-nitro- (CLAASZ), 1912, A., i, 389.

- Phenylthiosemicarbazidecarbothion-oxylic acid**, ethyl ester (ACREE and WILLCOX), 1904, A., i, 270.
- 8-Phenyl- $\alpha$ -o-thiosemicarbazonobenzoic acid**, potassium salt and anhydride of (ACREE), 1907, A., i, 563.
- Phenylthiosulphonic acid**, *p*-iodo-, *p*-phenylenediamine salt (TRÖGER and VOLKMER), 1905, A., i, 90.
- 1-Phenyl-5-thiourazole** (PELLIZZARI and LARIA-BOTTE), 1911, A., i, 336.
- 9-Phenylthioxanthanol**, 4-bromo- (GOMBERG and CONE), 1910, A., i, 871.
- 9-Phenylthioxanthanyl chloride** and its derivatives, *perchlorate*, 4-bromo-, bromide and 4-chloro-, chloride (GOMBERG and CONE), 1910, A., i, 870, 871.
- Phenyl-*p*-tolenylamidine**, benzoyl derivatives (WHEELER, JOHNSON, and McFARLAND), 1903, A., i, 859.
- Phenyltoluidines**, nitro-derivatives of (REVERDIN and CRÉPIEUX), 1903, A., i, 248.
- 2:4-dinitro-** (REITZENSTEIN), 1903, A., i, 816.
- 4-Phenyl-2-*p*-toluidinomethylthiazole** (JOHNSON and BURNHAM), 1912, A., i, 305.
- Phenyl-*p*-tolylacetic acid**, preparation of (GYR), 1909, A., ii, 34.
- Phenyl-*p*-tolylallylcarbinol** (KUZMIN), 1910, A., i, 109.
- Phenyl-*o*-tolylamine**, *p'*-amino-*p'*-hydroxy- (GNEHM and BOTS), 1904, A., i, 451.
- pp'*-dihydroxy-, and its dibenzoyl derivative (HELLER), 1912, A., i, 917.
- Phenyl-*p*-tolylamine** and its acetyl derivative (GOLDBERG and SISOEFF), 1908, A., i, 17.
- Phenyl-*p*-tolylamine**, 4-nitro- (GOLDBERG), 1907, A., i, 1027; (ULLMANN), 1908, A., i, 457.
- 2:4:6-trinitro-** (ULLMANN and NÁDAI), 1908, A., i, 526.
- Phenyl-2'- and -4'-tolylamines**, 4-amino- and 4-nitro-, and their 2-sulphonic acids (ULLMANN and DAHMEN), 1908, A., i, 976.
- Phenyl-*p*-tolyl-3:5-endoanilo-4:5-dihydro-1:2:4-triazoles**, 1:4- and 4:1- (BUSCH and MEHRTENS), 1906, A., i, 118.
- 10-Phenyl-9-tolylantracene** (GUYOT and VALLETTE), 1911, A., i, 653.
- Phenyl-*p*-tolylantranilic acid** (GOLDBERG and NIMEROVSKY), 1907, A., i, 621.
- 2-Phenyl-1-tolylisobenzofuran** (GUYOT and VALLETTE), 1911, A., i, 652.
- Phenyl-*p*-tolylbenzylethylphosphonium salts** (WEDEKIND), 1912, A., i, 43.
- $\delta$ -Phenyl- $\beta$ -*m*-tolyl- $\alpha$ -benzylidenethiosemicarbazide** (BUSCH and REINHARDT), 1910, A., i, 76.
- Phenyl-*p*-tolylbenzylmethylphosphonium salts** (POPE and GIBSON), 1912, T., 738.
- Phenyl- $\delta$ -tolylbutadiene ketone** and its oxime (SCHOLTZ and WIEDEMANN), 1903, A., i, 437.
- $\alpha$ -Phenyl- $\alpha$ -*p*-tolylbutane- $\alpha\gamma\delta$ -triol** (KUZMIN), 1910, A., i, 110.
- Phenyl-*p*-tolylcarbamide** (MARQUIS), 1907, A., i, 123; (FROMM, ROESICKE, and TAUSENT), 1909, A., i, 506.
- Phenyl-*o*-tolylcarbinol** (TSCHITSCH-BABIN), 1909, A., i, 919.
- $\alpha$ -Phenyl- $\beta$ -*p*-tolylcinnamonitrile** (BODROUX), 1911, A., i, 545.
- 6-Phenyl-2-*p*-tolyl-4-cinnamylpyridine**, 3-cyano- (v. MEYER and IRMSCHER), 1908, A., i, 912.
- Phenyl-*p*-tolylidicyanodiamide** (FROMM and WELLER), 1908, A., i, 701.
- 10-Phenyl-9-tolylidihydroanthracene**, 9:10-dihydroxy- (GUYOT and HALLER), 1911, A., i, 653.
- 2-Phenyl-1-tolyl-1:2-dihydroisobenzofuran**, and 2-hydroxy- (GUYOT and VALLETTE), 1911, A., i, 652.
- Phenyl-*p*-tolylidihydro-*p*-tolutriazine** (BUSCH and BERGMANN), 1905, A., i, 309.
- 4-Phenyl-1-*p*-tolyl-2:6-dimethylpyridinium perchlorate** (v. BAeyer and PICCARD), 1911, A., i, 901.
- $\alpha$ -Phenyl- $\beta$ -*o*-tolylethane**,  $\beta$ -imino- $\alpha$ -cyano-, and the formation of 1:3-diamino-2-phenylnaphthalene from (ATKINSON, INGHAM, and THORPE), 1907 T., 588; P., 76.
- Phenyl-*p*-tolylethyl- $\psi$ -carbamide** (FROMM, ROESICKE, and TAUSENT), 1909, A., i, 506.
- $\alpha$ -Phenyl- $\alpha$ -*p*-tolylethylene** (TIFFE-NEAU), 1907, A., i, 406.
- $\alpha$ -Phenyl- $\alpha$ -*p*-tolylethylene**, *o*-amino-, and its sulphate (STOERMER and FINCKE), 1909, A., i, 841.
- Phenyltolylethyl- $\psi$ -dithiobiuret** (JOHNSON and CRAMER), 1903, A., i, 753.
- Phenyl-*p*-tolylglycidic acid** and its ethyl ester (POINTET), 1909, A., i, 234.
- Phenyl-*p*-tolylguanidothiocarbamide** and its hydrochloride (FROMM and WELLER), 1908, A., i, 701.



**3-Phenyl-4-*p*-tolylideneisooxazolone** (MEYER), 1912, A., i, 1019.

**3-Phenyl-5-tolylidenetherodanane** (NÄGELE), 1912, A., i, 795.

**Phenyl-*p*-tolylidonium hydroxide and salts, *p*-amino-, *N*-acetyl derivative** (WILLGERODT and NÄGELI), 1907, A., i, 1025.

**Phenyl-*m*-tolylidonium hydroxide and salts** (WILLGERODT and UMBACH), 1903, A., i, 744.

**Phenyl *m*-tolyl ketone, sulphones of** (ULLMANN and LEHNER), 1905, A., i, 290.

**Phenyl *m*-tolyl ketone, 4-amino-, and 4:2'-dihydroxy-, and its tribromoderivative** (AUWERS and RIETZ), 1907, A., i, 939.

**Phenyl *p*-tolyl ketone, *o*-amino-** (ULLMANN and BLEIER), 1903, A., i, 176.

*o*-nitro- (KIEGL), 1908, A., i, 550.

**Phenyl *m*-tolyl ketones, amino-, and their acyl derivatives** (CHATTAWAY and LEWIS), 1904, T., 590; P., 60.

**Phenyltolylmalonic acid, ethyl ester** (GUYOT and ESTEVA), 1909, A., i, 237.

**Phenyl-*p*-tolylmethane, *o*-nitro-** (KIEGL), 1908, A., i, 550.

**Phenyl-*p*-tolylmethylalylphosphonium iodide** (POPE and GIBSON), 1912, T., 737.

**Phenyl-*p*-tolylmethylcarbinol, *o*-amino-** (STOERMER and FINCKE), 1909, A., i, 841.

**4-Phenyl-3-*p*-tolyl-6-methyldihydropyrazofurazan** (MICHAELIS and RISSE), 1911, A., i, 1039.

**Phenyl-*p*-tolylmethylethylphosphonium *d*-camphorsulphonate** (WEDEKIND), 1912, A., i, 1043.

**Phenyl-*p*-tolylmethylpyrazoline** (GATTERMANN), 1906, A., i, 590.

**4-Phenyl-6-*p*-tolyl-2-methylpyridine, 3-cyano-** (V. MEYER and IRMSCHER), 1908, A., i, 911.

**3-Phenyl-2-*p*-tolyl-6-methylquinoline-4-carboxylic acid** (FARBENFABRIKEN VORM. F. BAYER & Co.), 1912, A., i, 1019.

**Phenyltolylmethylsuccinic acid, synthesis of** (EYKMAN), 1905, A., i, 529.

**Phenyl-*p*-tolylmethylsulphine iodide, amino-** (V. MEYER and HEIDUSCHKA), 1903, A., i, 809.

**Phenyltolyl-*mono*- and -*di*-methyl- $\psi$ -*di*-thiobiurets** (JOHNSON, BRISTOL, and CRAMER), 1903, A., i, 752, 753.

**Phenyl-*p*-tolylmethyl- $\psi$ -thiocarbamide** (ÄRNDT), 1911, A., i, 919.

**Phenyl-*p*-tolylloxamide** (HELLER and EMRICH), 1904, A., i, 730.

**Phenyl-*p*-tolylloxamide, *p*-iodo-, and 4:2'-*d*initro-** (SUIDA), 1910, A., i, 665.

**Phenyl-*o*- and -*m*-tolylloxamides** (SUIDA), 1910, A., i, 665.

**5-Phenyl-2-*o*-, -*m*-, and -*p*-tolylloxazoles and picrate of the first** (LISTER and ROBINSON), 1912, T., 1300.

**Phenyl-*p*-tolyl *p*-phenylene disulphide** (BOURGEOIS and FOUASSIN), 1911, A., i, 964.

**Phenyl-*p*-tolylphosphoric acid and isomeric *dl*- and *d*-hydrindamides, and *l*-menthylamides of** (LUFF and KIPPING), 1909, T., 2001.

**Phenyl-*p*-tolylphosphoric amidine** (CAVEN), 1903, T., 1045; P., 200.

**Phenyl-*p*-tolylphosphorylchloride** (LUFF and KIPPING), 1909, T., 2000.

**Phenyl-*p*-tolylphthalamide** (TINGLE and ROLKER), 1909, A., i, 29.

**Phenyltolylphthalazine** (GUYOT and VALLETTE), 1911, A., i, 652.

**Phenyltolylphthalide, *o*-hydroxy-** (V. BAEYER), 1907, A., i, 759.

**Phenyltolylpiperidine and its salts** (SCHOLTZ and WIEDEMANN), 1903, A., i, 436.

**$\beta$ -Phenyl- $\beta$ -*p*-tolylpropionic acid,  $\beta$ -hydroxy-, and its salts** (KUZMIN), 1910, A., i, 110.

**3-Phenyl-1-*o*-tolylpyrazole, 5-chloro-** (MICHAELIS and LEO), 1910, A., i, 515.

**3-Phenyl-1-*o*-tolyl-5-pyrazolone** (MICHAELIS and LEO), 1910, A., i, 515.

**2-Phenyl-6-tolylpyridine and *iso*-2-Phenyl-6-tolylpyridine and their salts** (SCHOLTZ and WEIDEMANN), 1903, A., i, 436.

**Phenyl-*p*-tolylpyrrolinophenazine** (RUHEMANN), 1910, T., 1444.

**3-Phenyl-2-*p*-tolylquinoline-4-carboxylic acid** (FARBENFABRIKEN VORM. F. BAYER & Co.), 1912, A., i, 1018.

**Phenyltolylsemicarbazides, 4:2- and 4:1-, and their dithiocarboxylic acids, methyl esters** (BUSCH and FREY), 1903, A., i, 538.

**Phenyl-*o*-tolylsulphone** (ULLMANN and LEHNER), 1905, A., i, 290.

**Phenyl-*p*-tolylsulphone, 4-iodo-, 4-iodoso-, and 4-iodoxy-, and derivatives** (WILLGERODT and FLOCKSTIES), 1912, A., i, 256.

**4-Phenyl-3-*o*-, -*m*-, and -*p*-tolyl-2:3-thiazolines, 2-thio-** (V. WALTHER and GREIFENHAGEN), 1907, A., i, 350.

- Phenyl-*p*-tolyl- $\psi$ -thiocarbamide** and its salts and benzoyl derivative (ARNDT), 1911, A., i, 919.
- Phenyl-*o*- and -*p*-tolylthiocarbamides** (v. PAWLEWSKI), 1904, A., i, 237.
- 5-Phenyl-1-*p*-tolylthiodiazoline**, *endo*-thio-, and its 4-benzyl derivative (BUSCH and BLUME), 1903, A., i, 534.
- $\delta$ -Phenyl- $\beta$ -*m*-, - $\alpha$ -*m*-, and - $\beta$ -*o*-tolylthiosemicarbazides** (BUSCH and REINHARDT), 1910, A., i, 75.
- 1-Phenyl-4-*p*-tolyl-3:5-*endo*toluidino-4:5-dihydro-1:2:4-triazole** (BUSCH and MEHRTENS), 1906, A., i, 118.
- Phenyltrialkylammonium iodides**, electrolysis of (EMMERT), 1909, A., i, 376.
- $\alpha$ -Phenyl- $\alpha\alpha\delta$ -trialkylsulphonepentanes** (POSNER), 1904, A., i, 324.
- Phenyltriazene** and its reactions, stannichloride, copper and silver derivatives, and stereoisomeride (DIMROTH), 1907, A., i, 653.
- Phenyltriazene**, *o*-, *m*-, and *p*-bromo-, and the copper derivative of the latter (DIMROTH and PEISTER), 1910, A., i, 904.
- $\beta$ -cyano-, and its metallic derivatives (WOLFF and LINDENHAYN), 1904, A., i, 701.
- $\alpha$ -Phenyltriazene- $\beta$ -thiocarbamide** and its methyl derivatives (WOLFF and LINDENHAYN), 1904, A., i, 701.
- 5-Phenyl-1:2:4-triazine**, 3-chloro- and 3-hydroxy- (WOLFF and LINDENHAYN), 1904, A., i, 197.
- 3-hydroxy- (WOLFF, BOCK, LORENTZ, and TRAPPE), 1903, A., i, 205.
- 1-Phenyl-1:3:5-triazine**, 3:5-diamino-, and its picrate (RACKMANN), 1910, A., i, 897.
- 2-Phenyl-1:3:5-triazine**, 4:6-diamino-, and its salts (OSTROGOVICH), 1911, A., i, 333.
- Phenyltriazooacetic acid** and its ethyl ester (FORSTER and MÜLLER), 1910, T., 138; P., 4.
- s*-Phenyl- $\beta$ -triazooethylcarbamide** (FORSTER and NEWMAN), 1911, T., 1281; P., 154.
- s*-Phenyl- $\beta$ -triazooethylthiocarbamide** (FORSTER and NEWMAN), 1911, T., 1281; P., 154.
- 1-Phenyl-1:2:3-triazole**, 5-amino-, and its 4-carboxylic acid, and its potassium salt and ethyl ester (DIMROTH and WERNER), 1903, A., i, 129.
- and 5-chloro- (DIMROTH, MARSHALL, and HESS), 1909, A., i, 268.
- 1-Phenyl-1:2:3-triazole**, *p*-bromo-5-hydroxy-, and its 4-carboxylic acid and its ethyl ester and metallic and amine salts (DIMROTH and STAHL), 1905, A., i, 386.
- 5-hydroxy-, and its reactions and derivatives (DIMROTH), 1905, A., i, 99.
- and its 4-carboxylic acid, and its salts and esters (DIMROTH and EBERHARDT), 1903, A., i, 128.
- 4-Phenyl-1:2:3-triazole** and its silver salt, hydrochloride and platinichloride (OLIVERI-MANDALA and COPPOLA), 1910, A., i, 594.
- 1-Phenyl-1:2:4-triazole**, picrate and nitrate (PELLIZZARI), 1911, A., i, 1036.
- 1-Phenyl-1:2:4-triazole**, 3-(or 5-) thiol-, and its benzyl derivative (FROMM and BAUMHAUER), 1908, A., i, 703.
- 3:5-dithiol- and its acetyl derivative and dibenzyl ether (FROMM and SCHNEIDER), 1906, A., i, 714.
- oxidation products of (FROMM and BAUMHAUER), 1908, A., i, 703.
- 3-Phenyl-1:2:4-triazole**, 5-bromo- (MANCHOT), 1910, A., i, 442.
- 2-Phenyl-1:3:4-triazole**, salts of (PELLIZZARI), 1911, A., i, 1035.
- C*-Phenyl-*s*-triazole** and its additive salts, and acetyl- and carbamido-derivatives (YOUNG), 1905, T., 625; P., 131.
- Phenyl-1:2:4-triazoles**, hydroxy- (RUPE and LABHARDT), 1903, A., i, 537.
- synthesis of, and spatial hindrance (RUPE and METZ), 1903, A., i, 535.
- 1-Phenyl-1:2:3-triazole-5-azo- $\beta$ -naphthol** (DIMROTH, MARSHALL, and HESS), 1909, A., i, 268.
- 1-Phenyl-1:2:4-triazole-4-carboxylic acid**, 5-amino-, and its methyl ester (DIMROTH), 1909, A., i, 267.
- 5-chloro-, and its methyl ester (DIMROTH, MARSHALL, and HESS), 1909, A., i, 268.
- 5-hydroxy-, methyl ester, and its derivatives and keto-modification (DIMROTH), 1905, A., i, 98, 383, 384; (GOLDSCHMIDT), 1905, A., i, 249.
- 4-Phenyl-1:2:3-triazole-5-carboxylic acid** and its barium salt (OLIVERI-MANDALA and COPPOLA), 1910, A., i, 594.
- hydrazide, azoimide, and urethane of (DIMROTH, MARSHALL, and HESS), 1909, A., i, 268.

- 1-Phenyl-1:2:4-triazole-3-carboxylic acid**, 5-hydroxy- (RUPE and METZ), 1903, A., i, 536.
- 1-Phenyl-1:2:3-triazol-5-one**, 4-nitroso-, preparation of (DIMROTH and TAUB), 1907, A., i, 96; (DIMROTH), 1907, A., i, 662.
- 4-oximino-, and its reactions (DIMROTH and TAUB), 1907, A., i, 96.
- chromoisomerism and transformation of, and its salts, acyl derivatives, and phenylurethane (DIMROTH and DIENSTBACH), 1909, A., i, 62.
- decomposition products of (DIMROTH and DIENSTBACH), 1909, A., i, 63.
- 1-Phenyl-1:2:4-triazolone**, 5-thio- (ROLLA), 1908, A., i, 474.
- 1-Phenyl-1:2:3-triazol-5-one-4-carboxylic acid** and its esters (DIMROTH and EBERHARDT), 1903, A., i, 127.
- 1-Phenyl-1:2:3-triazol-5-one-4-carboxylic acid**, *p*-bromo-, and its ethyl ester and sodium salt (DIMROTH and STAHL), 1905, A., i, 386.
- op*-dinistro-, ethyl ester (DIMROTH and AICKELIN), 1907, A., i, 159.
- Phenyltriazomalonic acid** and its ethyl ester and amide (FORSTER and MÜLLER), 1910, T., 135; P., 4.
- Phenyltriazomethylcarbamide** (FORSTER and MÜLLER), 1910, T., 1065; P., 113.
- s*-Phenyl- $\gamma$ -triazopropyl-carbamide** and -thiocarbamide (FORSTER and WITHERS), 1912, T., 492.
- Phenylisotriazoxolecarboxylic acid** and its silver salt, and *p*-chloro- (PERKIN), 1903, T., 1223.
- Phenyl-1:2:4-triazylhydrazine** and its derivatives (MANCHOT), 1910, A., i, 442.
- $\alpha$ -Phenyltricarballic acid** (HECHT), 1903, A., i, 700; (WEGSCHEIDER), 1911, A., i, 458.
- Phenyltridecylnitrosoamine** (LÉ SUEUR), 1910, T., 2440.
- Phenyltriethylsilicane** (BYGDÉN), 1912, A., i, 342.
- 4-Phenyl-3:4:5-trimethoxybenzylidene-1-methyl-3-pyrazolone** (MAUTHNER), 1908, A., i, 729.
- 1-Phenyl-4(2':4':5')-trimethoxybenzylidene-3-methyl-5-pyrazolone** (FABINYI and SZÉKI), 1906, A., i, 423.
- Phenyl-*N*-trimethylalanine**, methyl ester, platini- and auri-chlorides of (ENGELAND), 1910, A., i, 843.
- 8-Phenyl-1:3:6-trimethylallantoin** (BILTZ and KREBS), 1911, A., i, 242.
- Phenyltrimethylallene**. See  $\alpha\gamma$ -Dimethyl- $\Delta\alpha\beta$ -butadienylbenzene.
- Phenyltrimethylammonium bromide** (v. BRAUN), 1908, A., i, 627, 676.
- perbromide (FRIES), 1906, A., i, 649.
- hydroxide, 3:5-diamino-4-hydroxy-, dibenzoyl derivative, and its salts (MELIOLA and HOLLELY), 1912, T., 930.
- iodide, *p*-hydroxy- (AUWERS and WEHR), 1904, A., i, 997.
- p*-iodo- (v. BRAUN), 1908, A., i, 628.
- periodides (STRÖMHOLM), 1903, A., i, 462.
- 1-Phenyl-3:4:6-trimethyl-1:2:7-benzotriazole** and its salts (BÜLOW and HAAS), 1911, A., i, 88.
- 1-Phenyl-3:5:6-trimethyl-1:2:7-benzotriazole**, 4-hydroxy-, and its aurichloride (BÜLOW and HAAS), 1911, A., i, 89.
- 2-Phenyl-4:5:6-trimethyl-1:2-dihydropyridone**, 3-hydroxy- (THOLE and THORPE), 1911, T., 2241.
- Phenyltrimethylethylene** (BLAISE and COURTOT), 1906, A., i, 794.
- $\alpha$ -Phenyl- $\alpha\delta\delta$ -trimethylfulgenic acid** (STOBBE and GADEMANN), 1911, A., i, 375.
- $\delta$ -Phenyl- $\alpha\alpha\delta$ -trimethyl-fulgenic acid** and -fulgide (STOBBE, ROSE, and GADEMANN), 1905, A., i, 857.
- $\alpha$ -Phenyl- $\alpha\delta\delta$ -trimethylallofulgenic acid** (STOBBE and GADEMANN), 1911, A., i, 375.
- $\alpha$ - and  $\delta$ -Phenyl- $\alpha\delta\delta$ -trimethylfulgide** (STOBBE and GADEMANN), 1911, A., i, 375.
- 2-Phenyl-1:3:3-trimethyl-2-indolinol** and its salts (JENISCH), 1907, A., i, 240.
- Phenyl-2:4:5-trimethylphenylhydrazine**, 5-chloro-2-nitro- and 2:4-*di*- and 2:4:6-*tri*-nitro-, and their derivatives (WILLGERODT and HERZOG), 1905, A., i, 549.
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- 1-Phenyl-3:4:5-trimethylpyrazole** (McCONNAN), 1904, A., i, 940.
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- 5-imino-**, and its additive salts and benzoyl derivative (STOLZ), 1904, A., i, 114.
- p*-nitro-** (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1910, A., i, 78.
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- and its platinichloride and nitroso-derivative (KOHN), 1905, A., i, 929.
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- 4-Phenyltriphenylmethyl** and its peroxide (SCHLENK, WEICKEL, and HERZENSTEIN), 1910, A., i, 236.
- chloride (SCHLENK and WEICKEL), 1909, A., i, 792.
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- Phenyl triphenylmethyl sulphide** (V. MEYER and FISCHER), 1911, A., i, 121.
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- Phenyl undecyl ketone**, physical properties of (EYKMAN), 1904, A., i, 591.
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- 1-Phenylurazole**, constitution of (ACREE), 1903, A., i, 867; (ACREE and LAIST), 1907, A., i, 796.
- and 3-thiol-, preparation of (ACREE), 1904, A., i, 351.
- acetyl and benzoyl derivatives of (ACREE), 1905, A., i, 160; (ACREE and LAIST), 1907, A., i, 796.
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- 3:5-dithiol- (ACREE and WILLCOX), 1904, A., i, 270.
- Phenylurea**, fate of, in the dog (SALASKIN and KOWALEWSKY), 1907, A., ii, 641.
- Phenylureido-**. See Phenylcarbamido-.
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- p*-cyano- (BOGERT and WISE), 1912, A., i, 450.
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- $\alpha$ -Phenylisovaleraldehyde** (TIEFFENEAU), 1906, A., i, 966.
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- $\beta$ -Phenylvaleric acid**,  $\beta$ -amino- (POSNER and STIRNUS), 1912, A., i, 456.
- $\beta$ -hydroxy-, and its salts (MICHNOWITSCH), 1905, A., i, 526.
- $\gamma$ -Phenylvaleric acid** and its salts (EYKMAN), 1904, A., i, 669.
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- $\gamma$ -Phenylvaleric acid**,  $\alpha$ -bromo-, and its potassium salt (KÖHLER), 1905, A., i, 701.
- $\beta$ -imino- $\alpha$ -cyano-, ethyl ester, formation and constitution of (ATKINSON and THORPE), 1906, T., 1922; P., 282.

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- δ-Phenylvaleronitrile** (V. BRAUN), 1910, A., i, 844.
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- Phenyl-*dl*-valine**, 2:4-dinitro- (ABDERHALDEN and BLUMBERG), 1910, A., i, 371.
- Phenylvanillilosazones**, *p*-bromo- and *p*-nitro-, and their triacetyl derivatives (BILTZ and SIEDEN), 1903, A., i, 120.
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- 2-Phenyl-4-veratrylphthalazone** (LAGODZINSKI), 1906, A., i, 82.
- γ-Phenylvinylacetic acid**, preparation of (FICHTER and ALBER), 1907, A., i, 87.
- Phenyl vinyl ketone** (*methylencaceto-phenone*) and homologues of (KÖHLER), 1909, A., i, 938.
- Phenyl vinyl ketone**, hydroxy-, conversion of, into benzoylpyruvic acid (MUMM and MÜNCHMEYER), 1911, A., i, 79.  
C- and O-carbanilides of (DIECKMANN, HOPPE, and STEIN), 1905, A., i, 137.
- 9-Phenylxanthen** (ULLMANN and ENGI), 1904, A., i, 682; (MEYER), 1905, A., i, 226.
- 9-Phenylxanthen**, 3:6-dichloro-9-cyano- (POPE and HOWARD), 1911, T., 550.
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- Phenyl-*m*-xylylamine** and its acetyl derivative (GOLDBERG and SISOEFF), 1908, A., i, 17.

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- Phlobaphen from santalin (CAIN and SIMONSEN), 1912, T., 1063; P., 140.
- $\alpha$ - and  $\beta$ -Phlobaphen, formation of (NIERENSTEIN and WEBSTER), 1910, A., i, 124.
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- Phlorethin-glycuronic acid (SCHÜLLER), 1911, A., ii, 814.
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- Phloroglucinol series**, methylene compounds of the (BOEHM), 1904, A., i, 403.
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- Phloroglucinol-*d*-glucoside** (*phlorin*) (FISCHER and STRAUSS), 1912, A., i, 884; (CREMER and SEUFFERT), 1912, A., i, 885.
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- Phloroglucinoltrimercuriacetate** (LEYS), 1905, A., i, 434.
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- $\alpha$ -Phocætaurocholic acid** (HAMMERTEN), 1909, A., ii, 819.
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- Phonopyrrole** and its picrate (PILOTY, QUITMANN, and EPPINGER), 1911, A., i, 92.
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- iso***Phonopyrrolecarboxylic acid** and its picrate (PILOTY and THANNHAUSER), 1912, A., i, 737.
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- Phorone** (*acetophorone*:  $\beta\zeta$ -*dimethyl- $\Delta^{\beta\epsilon}$ -heptadien- $\delta$ -one*) and its hydrobromide and hydrochloride (VORLÄNDER and HAYAKAWA), 1904, A., i, 65.  
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- $\alpha$ -**Picrotinic acid**, calcium salt and ethyl ester (ANGELICO), 1910, A., i, 404.  
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- $\alpha$ - and  $\beta$ -**Picrotinic acids** (ANGELICO), 1909, A., i, 319.
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- o*-Picrylaminophenylmercaptan** (KEHRMANN and STEINBERG), 1911, A., i, 1034.
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- Pinocamphoneoxime**, *o*-hydroxy- (CUSMANO), 1910, A., i, 575.
- Pinocampheoryl alcohol** (SEMMLER), 1904, A., i, 261.
- Pinocampheylamine**. See Dihydropinylamine.
- Pinocarveol** and **Pinocarvone**, preparation and reactions of (WALLACH and JÄGER), 1906, A., i, 683.
- Pinol** nitrosoazide (FORSTER and VAN GELDEREN), 1911, T., 2067.
- Pinolene** and *iso***Pinolene** and their hydrochlorides (ASCHAN), 1907, A., i, 630.
- $\alpha$ - and  $\beta$ -**Pinolene** and their derivatives (ASCHAN, SJÖSTRÖM, and PETERSON), 1912, A., i, 198.
- Pinolone**, constitution and synthesis of (WALLACH), 1911, A., i, 891.
- Pinonaldehyde** disemicarbazone (HARRIES and V. SPLAWA-NEYMAN), 1909, A., i, 247.
- Pinonic acid**, transformation of, into *m*-xylylacetic acid (BARBIER and GRIGNARD), 1909, A., i, 301.
- and its ethyl ester (PERKIN and SIMONSEN), 1909, T., 1174.
- active (BARBIER and GRIGNARD), 1910, A., i, 555.
- l*-**Pinonic acid** (SCHIMMEL & Co.), 1908, A., i, 667.
- Pinonic acids**, active, and their oximes (BARBIER and GRIGNARD), 1908, A., i, 852.
- Pinophanic acid**, synthesis of (KOMPPA), 1911, A., i, 642.
- Pinophorone** and its oxime and semicarbazone (SEMMLER), 1904, A., i, 261.
- Pinus abies*, resin acids from (KLASON and KÖHLER), 1906, A., i, 100.

- Pinus abies*, terpenes from the resin of (ASCHAN), 1906, A., i, 442, 686.
- Pinus cambodgiana*, resin balsam from (WICHMANN), 1912, A., i, 883.
- Pinus cembra*, constituents of the seeds of (SCHULZE), 1907, A., ii, 806.
- Pinus edulis*, oil from (SCHIMMEL & Co.), 1910, A., i, 328.
- Pinus flecilis*, oil from (SCHIMMEL & Co.), 1910, A., i, 328.
- Pinus halepensis*, resin-balsam of (TSCHIRCH and SCHULZ), 1907, A., i, 544.
- turpentine from (VÉZES), 1909, A., i, 818.
- Pinus insularis*, oleo-resin of (BROOKS), 1910, A., i, 692.
- Pinus Jeffreyi*, resin of (TSCHIRCH and LEUCHTENBERGER), 1908, A., i, 196.
- Pinus Koraiensis*, composition of protein from the seeds of (YOSHIMURA), 1910, A., ii, 442.
- Pinus laricio*, Poirét, resin-balsam and oil of (TSCHIRCH and SCHMIDT), 1904, A., i, 76.
- Pinus longifolia*, constituents of the oil of (ROBINSON), 1911, P., 247.
- resin oil of (RABAK), 1905, A., i, 911.
- Pinus maritima*, oil from the buds of (BELLONI), 1906, A., i, 520, 525.
- Pinus murrayana*, oil from (SCHIMMEL & Co.), 1910, A., i, 328.
- Pinus palustris*, resin of (TSCHIRCH and KORITSCHONER), 1903, A., i, 105.
- oil from. See Long leaf pine oil.
- Pinus pinea*, direct action of light on the transformation of sugars absorbed by the young plants of (LUBIMENKO), 1906, A., ii, 882.
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- Pinus pumilo* (dwarf pine), constituents of the oil of the (BÜCKER and HAHN), 1911, A., i, 549.
- Pinus resinosa*, oleo-resin and terpenes from (FRANKFORTER), 1906, A., i, 971.
- Pinus serotina*, volatile oil of (HERTY and DICKSON), 1908, A., i, 435.
- Pinus sylvestris*, *d*-pinic acid from (VESTERBERG), 1906, A., i, 92.
- terpenes from the resin of (ASCHAN), 1906, A., i, 442, 686.
- examination of the solid constituent of turpentine from (LESKIEWICZ), 1910, A., i, 402.
- and *P. strobi*, oils from (TRÖGER and BEUTIN), 1904, A., i, 1037.
- Pinyll formate** and hydrogen oxalate (AMPÈRE ELECTRICAL Co.), 1903, A., i, 502.
- Pinyllamine nitrite** (WALLACH), 1907, A., i, 602.
- Pinyll- $\psi$ -carbamide** and its nitroso-derivative and 4- $\psi$ -semicarbazide and its additive salts and compounds with aldehydes and ketones (LEACH), 1907, T., 16.
- Pipecolic acid**, dimethyl-betaine, and its salts (YOSHIMURA), 1912, A., i, 497.
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- 4-Pipecoline-3- $\omega$ -dicarboxylic acids**. See Cincholeuponic acids.
- 4-Pipecolylalkine**. See Ethylpiperidine, 4- $\beta$ -hydroxy-.
- 2- $\beta$ -2'-Pipecolylethylpyridine** and its additive salts (LÖFFLER and KIRSCHNER), 1905, A., i, 938.
- Piperazine** (*diethylenediamine*), and  $\alpha$ -dihalogen-pentanes (V. BRAUN), 1907, A., i, 728.
- action of hypobromous acid on (CHATTAWAY and LEWIS), 1905, T., 951; P., 183.
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- derivatives and pyrrole derivatives, synthesis of, from the three nitro-anilines (BORSCHÉ and TITSINGH), 1908, A., i, 103.
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- arsenates and phosphates (ASTRUC and BRENTA), 1908, A., i, 919.
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- methylarsinate (ASTRUC), 1905, A., i, 671.
- dinitrate, and *d*-nitro- (VAN DORP), 1909, A., i, 327.
- Piperazine, 2:5-dithio-**, and its metallic salts (JOHNSON and BURNHAM), 1911, A., i, 713.
- $\alpha$ -Piperazineanthraquinone** (FARBEN-FABRIKEN VORM. F. BAYER & Co.), 1903, A., i, 499.
- Piperazine-1:4-diacetic acid** and its salts and amide and dihydrochloride (VAN DORP), 1909, A., i, 328.
- methyl and ethyl esters (FRANCHIMONT and KRAMER), 1910, A., i, 139.
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**Piperazine-theophylline**, preparation of (CHEMISCHE WERKE VORM. H. BYK), 1910, A., i, 81.

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**Piperideine series**, new acid of the (PICCININI), 1906, A., i, 983.

$\Delta^3$ -**Piperideine-3-aldehyde** and its oxime and their hydrochlorides and 1-benzoyl and 1-*m*-nitrobenzoyl derivatives (WOHL and LOSANITSCH), 1908, A., i, 46.

$\Delta^3$ -**Piperideine-3-aldehydenitrophenyl-hydrazone**, hydrochloride of (WOHL, HERTZBERG, and LOSANITSCH), 1906, A., i, 106.

**Piperidides** and the action of nitric acid on (FRANCHIMONT, VAN RYN, and FRIEDMANN), 1907, A., i, 842.

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**Piperidine** (*hexahydropyridine*), the system: cyclohexane and (MASCARELLI and CONSTANTINO), 1909, A., ii, 790.  
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**Piperidine**, 4-chloro-3-cyano-, hydrochloride of, and 3-cyano-, reactions of (WOHL and LOSANITSCH), 1908, A., i, 47.  
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**Piperidine series**, new instance of nitrogen isomerism in the (LADENBURG and SOBECKI), 1909, A., i, 831.  
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**Piperidine-3-aldehyde** and its additive salts and diethylacetal and 4-chloro-, diethylacetal of, and its 1-benzoyl derivative, and dimethylacetal of (WOHL and LOSANITSCH), 1908, A., i, 46.

**Piperidine-2:6-dicarboxylic acid**, 4-hydroxy-, and its salts and derivatives (EMMERT and HERTERICH), 1912, A., i, 385.



- Piperidine-ethylene-dinitroaminomethane** (FRANCHIMONT), 1910, A., i, 617.
- Piperidinemethylnitroaminomethane** (FRANCHIMONT), 1911, A., i, 617.
- Piperidinum cyanide** (PETERS), 1906, A., i, 817; (MICHAEL and HIBBERT), 1909, A., i, 91.
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- $\beta$ -Piperidobenzylacetylacetone** (RUHEMANN and WATSON), 1904, T., 1176; P., 175.
- Piperidoethyl ether** and its additive salts (KNORR, HÖRLEIN, and ROTH), 1905, A., i, 821.
- Piperidone**,  $C_9H_{15}ON$ , from pinophorone-oxime (SEMMLER), 1904, A., i, 261.
- Piperidone**, action of ammonia on derivatives of (TSONEFF), 1912, A., i, 580.
- 2-Piperidone**, 3-hydroxy-, and 3-amino-, and their salts (FISCHER and ZEMPLEN), 1910, A., i, 101.
- 2-Piperidone-6-carboxylic acid** and its salts (DIECKMANN), 1905, A., i, 417.
- Piperidylacetic acid**, cholesteryl ester and its hydrochloride (DIELS and STAMM), 1912, A., i, 698.
- Piperidyl-2-acetic acid** (KOENIGS and HAPPE), 1903, A., i, 850.
- Piperidyl-4-acetic acid**,  $\alpha$ - $\gamma$ -3-cyano-, and its hydrochloride (WOHL and LOSANITSCH), 1908, A., i, 48.
- $\gamma$ -Piperidylacetoacetic acid**, ethyl ester, and its salts (BENARY), 1908, A., i, 601.
- Piperidylacetonitrile** and its methiodide (KLAGES and MARGOLINSKY), 1904, A., i, 146.  
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- $\alpha$ -Piperidyl-acetonitrile**, - $n$ -butyronitrile, - $n$ -hexonitrile, and - $n$ -octonitrile, and its hydrobromide (V. BRAUN), 1908, A., i, 676.
- Piperidylacetophenone** and its methiodide and their benzoyl derivatives (RABE, SCHNEIDER, and BEAASCH), 1908, A., i, 361.
- Piperidylacetylcatechol** and its hydrochloride (MANNICH and HUBNER), 1911, A., i, 566.
- $\epsilon$ -Piperidylalkyl ethers** (MERCK), 1907, A., i, 1072.
- 5- and 8-Piperidyl-1-aminoanthraquinones** (GATTERMANN), 1912, A., i, 1001.
- 1-Piperidylaminoanthraquinone-2-carboxylic acid** (BADISCHE ANILIN- & SODA-FABRIK), 1912, A., i, 980.
- $\beta$ -Piperidyl- $\beta$ -amyl-, - $\beta$ -hexyl-, and - $\beta$ -phenyl-acrylonitriles** (MOUREU and LAZENNEC), 1906, A., i, 956.
- $\omega$ -Piperidylamyl-isoamylcyanamide** and -isoamylamine and their salts (V. BRAUN), 1907, A., i, 961.
- Piperidylamylcyanoethylamine** (V. BRAUN), 1909, A., i, 508.
- Piperidylamyl-cyanopropylamine** and -propylamine and its picrate and platinichloride (V. BRAUN), 1909, A., i, 508.
- Piperidylamylethylamine** and its salts (V. BRAUN), 1909, A., i, 508.
- $\omega$ -Piperidylamylphenylcyanamide** and its salts (V. BRAUN), 1907, A., i, 960.
- $\alpha$ -Piperidylanthraquinone** and 5-hydroxy- and 8-nitro-derivatives of (FARBENFABRIKEN VORM. F. BAYER & CO.), 1903, A., i, 499.
- 5- and 8-Piperidylanthraquinones**, 1-thiocyano- (GATTERMANN), 1912, A., i, 1001.
- $p$ -Piperidylbenzyl alcohol** and its platinichloride (V. BRAUN and KRUBER), 1912, A., i, 970.
- Piperidylbenzylideneacetophenone**. See Phenyl piperidylstyryl ketone.
- Piperidylcadaverine**, benzoyl derivative (V. BRAUN and STEINDORFF), 1905, A., i, 206.
- Piperidylcarbamides** (BOUCHETAL DE LA ROCHE), 1904, A., i, 189.
- Piperidylcodide** and its methiodide (VONGERICHTEN and MÜLLER), 1903, A., i, 571.
- 4-Piperidylcoumarin** (*benzotetronpiperidide*) (ANSCHÜTZ, ANSPACH, FRESERIUS, and CLAUS), 1909, A., i, 662.
- Piperidylcrotonic acid**, ethyl ester (FEIST), 1906, A., i, 332.
- Piperidylcyanamide**, aniline and guanidine derivatives and their picrates and platinicyanides (V. BRAUN), 1909, A., i, 507.
- Piperidylcyanophenoxypropylpentamethylenediamine** (V. BRAUN), 1909, A., i, 507.
- 2-Piperidyl-dimethylcarbinol** and its additive salts (SOBECKI), 1909, A., i, 51.
- Piperidylethyl benzoate** and its additive salts and physiological action (PYMAN), 1908, T., 1795; P., 208.  
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- Piperidylformanilide** (RUHEMANN), 1909, T., 119.
- Piperidylmethanesulphonic acid**, sodium salt (KNOEVENAGEL and KLUCKE), 1904, A., i, 990.
- Piperidylmethoxybenzoylstyrene** (WATSON), 1904, T., 1325; P., 181.
- N-Piperidylmethyl-alkyl- and -aryl-amides** (EINHORN, BISCHKOPFF, SZELINSKI, SCHUPP, and SPRÖNGERTS), 1906, A., i, 246.
- Piperidylmethyldiethylcarbinol** (SÜSSKIND), 1906, A., i, 133.
- Piperidylmethylenoxime acetate**, cyano- (WIELAND and GMELIN), 1909, A., i, 611.
- 3-Piperidyl-1-methyl- $\Delta^3$ -cyclohexene-4-carboxylic acid**, ethyl ester (KÖTZ and MERKEL), 1909, A., i, 157.
- Piperidylmethylmandelamide** (EINHORN), 1908, A., i, 611.
- Piperidylmethylmethylethylcarbinol** (EINHORN, FIEDLER, LADISCH, and UHLFELDER), 1910, A., i, 172.
- Piperidylmethylmorphimethine** and its methiodide (VONGERICHTEN and MÜLLER), 1903, A., i, 571.
- Piperidyl- $\beta$ -naphthisatin** (WICHELHAUS), 1903, A., i, 632.
- $\alpha$ -Piperidyl- $\beta$ -*aci*-dinitroethane** and its acetyl derivative (DUDEN, BOCK, and REID), 1905, A., i, 568.
- $\beta$ -Piperidyl- $\alpha$ -isonitrosoethyl phenyl ketone** (DUDEN, BOCK, and REID), 1905, A., i, 569.
- Piperidylisooxazolone**, oximino-, and its barium and piperidine derivatives (WIELAND and GMELIN), 1909, A., i, 611.
- $\epsilon$ -Piperidyl- $\Delta\alpha$ -pentene** and its salts (V. BRAUN, MÜLLER, and BESCHKE), 1907, A., i, 151.
- 3-Piperidylphenol**, 2:5-dinitro-4-amino-, acetyl derivative (MELDOLA and HAY), 1909, T., 1049.
- $\beta$ -Piperidyl- $\beta$ -phenylacrylic acid**, ethyl ester (MOUREU and LAZENNEC), 1906, A., i, 957.
- Piperidylphenylbenzamidine** and its additive salts (V. BRAUN), 1904, A., i, 689.
- Piperidyl-*m*-phenyl-dicarbamide**, -diurethane and -4-nitrophenyl-2-urethane (SPIEGEL and UTERMANN), 1906, A., i, 882.
- 4-Piperidyl-1-phenyl-2:3-dimethyl-5-pyrazolone** (FARBWERKE VORM. MEISTER, LÜTJUS, & BRÜNING), 1904, A., i, 196.
- $\beta$ -Piperidyl- $\alpha$ -phenylethyl alcohol** and its salts (RABE, SCHNEIDER, and BRAASCH), 1909, A., i, 413.
- $\beta$ -Piperidyl- $\beta$ -phenyl- $\alpha$ -lactic acids**, isomeric (ERLENMEYER and BARKOW), 1906, A., i, 237.
- 5-Piperidyl-1-phenyl-3-methylpyrazole**, 4-amino-, and its acetyl and benzoyl derivatives (MICHAELIS and KLOPSTOCK), 1907, A., i, 737.
- 5-Piperidyl-1-phenyl-3-methylpyrazole-4-azobenzene** and its additive compounds (MICHAELIS and KLOPSTOCK), 1907, A., i, 736.
- $\alpha$ -Piperidyl- $\beta$ -(1)-piperidyl-methylcarbamide** (EINHORN and V. BAGH), 1910, A., i, 259.
- $\beta$ -Piperidylpropionic acid**, and its salts and ethyl ester (LÖFFLER and KAIM), 1909, A., i, 179; (V. BRAUN), 1909, A., i, 508.
- Piperidylpropionitrile** (KNOEVENAGEL and KLUCKE), 1904, A., i, 989.
- $\gamma$ -Piperidylpropyl guaiacyl and phenyl ethers** (MERCK), 1907, A., i, 1071.
- Piperidylstyryl phenyl ketone** (ANDRÉ), 1911, A., i, 269.
- Piperidylthioncarbamic acid**, methyl ester (DELÉPINE and SCHVING), 1910, A., i, 721.
- Piperil**, condensation of, with benzaldehyde and ammonia (NOWOSIELSKI), 1907, A., i, 425.
- action of thionyl chloride on (BARGER and EWINS), 1908, T., 735; P., 60.
- Piperildisemicarbazone** (BILTZ and ARND), 1905, A., i, 675.
- $\beta$ -Piperil- $\beta$ -naphthylhydrazone** (PADOA and SANTI), 1911, A., i, 694.
- $\beta$ -Piperil- $\beta$ -naphthylsazone** (PADOA and SANTI), 1910, A., i, 779.
- $\beta$ -Piperil- $\alpha$ -naphthyl- and -*m*-4-xylylsazones** (PADOA and BOVINI), 1912, A., i, 224.
- $\beta$ -Piperilphenylmethylosazone** (PADOA and SANTI), 1912, A., ii, 880.
- $\beta$ -Piperil-*m*-tolylsazone** (PADOA and SANTI), 1911, A., i, 694.
- $\beta$ -Piperil-*o*- and -*p*-tolylsazones** (PADOA and SANTI), 1910, A., i, 779.
- Piperine**, salts and stanni-salts of (PFEIFFER, FRIEDMANN, GOLDBERG, PROS, and SCHWARZKOPF), 1911, A., i, 792.
- Piper methysticum* (kawa root) (WINZHEIMER), 1908, A., i, 804.
- Piperolidine** ( *$\delta$ -coniceine*), new synthesis of (LÖFFLER and FLÜGEL), 1909, A., i, 831.
- salts of (LÖFFLER and KAIM), 1909, A., i, 179.
- 2-Piperolidone** and its salts and 3-hydroxy- (LÖFFLER and KAIM), 1909, A., i, 179.

**Piperonal** (*piperonaldehyde*), electrolytic reduction of (LAW), 1906, T., 1514, 1526; P., 237.

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**Piperonaldehyde-*p*-methoxyphenylhydrazone** (PADOA and SANTI), 1911, A., i, 1029.

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**Piperonaldehydophenylmethylhydrazone**, compounds of, with picryl chloride and trinitrobenzene (CIUSA and VECCHIOTTI), 1912, A., i, 33.

**Piperonaldehydopiperonylhydrazone** and its derivatives (CURTIUS and GUTTMANN), 1912, A., i, 509.

**Piperonaldehyde-*p*-tolylhydrazone** (PADOA and GRAZIANI), 1909, A., i, 965.

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**Piperonal-green** (LIEBERMANN), 1903, A., i, 861.

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- $\beta$ -Piperonylacrylic acid (methylenedioxybenzoicacrylic acid)** (BOUGAULT), 1908, A., i, 270.  
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- $\beta$ -Piperonylacrylic acid,  $\alpha$ -cyano-, ethyl ester** (CLARKE and FRANCIS), 1911, A., i, 205.
- allo*-Piperonylacrylic acid** and its derivatives (STOERMER, FRIDERICI, BRÄUTIGAM, and NECKEL), 1911, A., i, 297.
- Piperonylacryl methyl ketone, *o*-nitro-, and its oxime** (HERZ), 1905, A., i, 779.
- Piperonylanthraquinonyl-1- and -2-hydrazones** (MÖHLAU, VIERTEL, and REINER), 1912, A., i, 704.
- Piperonylazoimide** (CURTIUS and GUTTMANN), 1912, A., i, 509.
- $\alpha$ -Piperonyl- $\Delta^{\alpha}$ -butylene and -butane**, and its  $\alpha\beta$ -dibromo-derivative (MAMELI and ALAGNA), 1905, A., i, 890.
- Piperonylbutyric acid**, menthyl ester, and brucine salt, and their rotatory powers (HILDITCH), 1909, T., 1573; P., 214.
- $\gamma$ -Piperonylisocrotonic acid,  $\alpha$ -hydroxy-** (BOUGAULT), 1908, A., i, 539.
- Piperonyldeoxybenzoin**, chloro-, and its methyl and ethyl ethers (STOBBE and WILSON), 1910, A., i, 626.
- 4-Piperonyldihydro-6-pyridone, 3:5-dicyano-2-hydroxy-, and its derivatives** (PICCININI), 1904, A., i, 91.
- $\alpha$ -Piperonyl- $\delta\delta$ -dimethylfulgenic acid** (STOBBE and LENZNER), 1911, A., i, 374.
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- N*-Piperonyleneanthranilic acid** (v. PAWLEWSKI), 1905, A., i, 438.
- Piperonylethane,  $\alpha$ -mono- and  $\alpha\beta$ -dibromo-, and Piperonylethylene** and its polymeride (MAMELI), 1904, A., i, 668.
- Piperonylhydracrylic acid hydrazide** (SCHROETER), 1910, A., i, 431.
- Piperonylhydracryl methyl ketone, *o*-nitro-, and its oxime and phenylhydrazone** (HERZ), 1905, A., i, 778.
- Piperonylhydrazine** and its derivatives (CURTIUS and GUTTMANN), 1912, A., i, 509.
- $\alpha$ -Piperonylhydrazonopropionic acid** (CURTIUS and SCHMITTMANN), 1912, A., i, 510.
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- Piperonylidene-*p*-aminobenzoic acid**, ethyl ester (MOORE and GALE), 1908, A., i, 369.
- Piperonylidene-*p*-aminodimethylaniline** and its hydrochlorides (MOORE and GALE), 1908, A., i, 369.
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- Piperonylideneamino-3-phenyl-1:2:4-triazole** (MANCHOT), 1910, A., i, 442.
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- 5-Piperonylidene-3-isobutylrhodanine** (NÄGELE), 1912, A., i, 795.
- Piperonylidene-carbamidoxime** (CONDUCHÉ), 1908, A., i, 154.
- Piperonylidene-*p*-chloroaniline** (MOORE and GALE), 1908, A., i, 369.

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- Piperonylidene**deoxybenzoin, two isomerides (STOBBE and WILSON), 1910, A., i, 626.
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- 4-Piperonylidene**hydantoin, 2-thio- (JOHNSON and O'BRIEN), 1912, A., i, 806.
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- Piperonylidene-*p*-methoxyacetophenone** (SCHOLTZ and MEYER), 1910, A., i, 562.
- $\alpha$ -Piperonylidene- $\gamma$ -methylenedioxy-phenylparaconic acid** (STOBBE, VIEWEG, ECKERT, and REDDELIEN), 1911, A., i, 378.
- 6-Piperonylidene-3-methylcyclohexanone** (STRIEGLER), 1912, A., i, 784.
- $\alpha$ -Piperonylidene**methyl nonyl ketone and its semicarbazone (SCHOLTZ and MEYER), 1910, A., i, 562.
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- $\gamma$ -Piperonylidene**epicoline and its salts (BRAMSCH), 1909, A., i, 414.
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- $\beta$ -Piperonyl- $\alpha$ -methylacrylic acid** (WALLACH and EVANS), 1907, A., i, 1061.
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- $\beta$ -Piperonyl- $\alpha$ -methylglycidic acid**, ethyl ester (DARZENS), 1906, A., i, 137.
- $\epsilon$ -Piperonyl- $\beta$ -methyl- $\Delta\beta$ -pentene- $\gamma\delta$ -dicarboxylic acid** (STOBBE and LENZNER), 1911, A., i, 374.
- 1-Piperonyl-3-methyl-5-pyrazolone** and 4-oximino-, and their silver salts (CURTIUS and SCHMITTMANN), 1912, A., i, 509.
- 1-Piperonyl-3-methyl-6-pyridazinone** (CURTIUS and SCHMITTMANN), 1912, A., i, 510.
- Piperonylmethyltetrahydro-oxazolone** (SCHROETER), 1910, A., i, 431.
- 2-Piperonylnaphthafavanone**, 6-nitro- (TORREY and CARDARELLI), 1911, A., i, 68.
- $\alpha$ -Piperonyl- $\delta$ -2-naphthyl- $\delta$ -methylfulgide** (STOBBE and LENZNER), 1911, A., i, 397.
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- $\alpha$ -Piperonyl- $\delta$ -phenyl- $\delta$ -methyl-fulgide** and -*allo*fulgide (STOBBE, GADEMANN, and ROSE), 1911, A., i, 379.
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**cycloPropane-1:1-dicarboxylic acid**, ethyl ester (BARTHE), 1906, A., i, 175.



*cyclo*Propane-1:2-dicarboxylic acid, formation of, from glutaric acid (PERKIN and TATTERSALL), 1905, T., 362; P., 90.

*cyclo*Propane-1:2-dicarboxylic acid,  $\alpha$ - and  $\beta$ -dibromo- (BUCHNER and WEDEMANN), 1905, A., i, 439.

*cyclo*Propanedicarboxylic acids, conversion of substituted paraconic acids into (BARBIER and LOCQUIN), 1911, A., i, 722.

*cis*- and *trans*- (PERKIN), 1905, T., 359; P., 90.

and their anhydrides (GREGORY and PERKIN), 1903, T., 784; P., 164.

*cyclo*Propane-di-, -tetra-, and -hexacarboxylic acids (KÖTZ and STALMANN), 1903, A., i, 742.

*cyclo*Propane-1:2-di- and -1:1:2-tricarboxylic acids, *d*- and *l*-, and their alkaloidal salts (BUCHNER and v. DER HEIDE), 1905, A., i, 780.

Propane- $\alpha\alpha$ -disulphonic acid, barium salt (SCHROETER and HERZBERG), 1905, A., i, 851.

Propanehexacarboxylic acid, ethyl ester (KÖTZ and STALMANN), 1903, A., i, 742.

*cyclo*Propane-mono- and -di-carboxylic acids, dissociation constants of (BONE and SPRANKLING), 1903, T., 1378; P., 247.

Propanepentacarboxylic acid. See Dicarboxytricarballic acid.

*cyclo*Propanecyclopentane-(1:1)-spiran-2:5-dione-3:4-dicarboxylic acid and its ethyl ester (RADULESCU), 1911, A., i, 458.

Propane- $\alpha\beta\gamma$ -tetracarboxylic acid,  $\alpha\gamma$ -dicyano-, esters (SCHMITT), 1907, A., i, 1007.

ethyl ester, and the action of ammonia on (SCHMITT), 1905, A., i, 508.

Propanetetracarboxylic acids. See also Dicarboxyglutaric acid.

*cyclo*Propanetetracarboxylic acid and its ethyl ester and salts (GREGORY and PERKIN), 1903, T., 783; P., 164.

and its esters and amide, formation of (GUTHZEIT and LOBECK), 1908, A., i, 129.

and its ethyl ester (PERKIN), 1905, T., 359; P., 90.

Propane- $\alpha\beta\gamma$ -tricarboxylic acid (BLAISE and GAULT), 1911, A., i, 520.

Propanetricarboxylic acids. See also Carboxyglutaric acid and Tricarballic acid.

*trans-cyclo*Propane-1:2:3-tricarboxylic acid, ethyl ester (DARAPSKY), 1910, A., i, 437.

Propanetrisulphonic acid, salts (SHOBER), 1904, A., i, 793.

*cyclo*Propanols, formation of (TIFFENEAU and DAUFRESNE), 1907, A., i, 515.

Propanone. See Acetone.

Propargyl alcohol (*propinol*), hydrate, phenylurethane, and iodo-derivatives of (LESPIEAU), 1908, A., i, 496.

Propargylaldehyde. See Propiolaldehyde.

Propargylcarbinol (LESPIEAU and PARIS-ELLE), 1908, A., i, 496.

methyl ether, bromo-derivative of (LESPIEAU), 1907, A., i, 580.

$\Delta\beta$ -Propen- $\gamma$ -ol- $\alpha$ -al,  $\beta$ -chloro- (*chloromalonalddehyde*) and its alkali derivatives and benzoate (DIECKMANN and PLATZ), 1905, A., i, 117, 171.

$\gamma$ -*iso*Propenolpimelic acid, ethyl hydrogen ester, lactone of (PERKIN and SIMONSEN), 1907, T., 1742; P., 198.

Propenyl alcohol, action of hydrogen chloride on (MICHAEL), 1906, A., i, 781.

Propenyl compounds, aromatic, dibromides of (HOERING), 1905, A., i, 902, 903; 1907, A., i, 411.

and allyl compounds in ethereal oils, separation of (BALBINO), 1909, A., i, 401.

*p*- $\psi$ -Propenylanisole and its reduction (KLAGES), 1904, A., i, 1003.

Propenylanisoles. See Anetholes.

$\psi$ -Propenylanisoles, *o*- and *p*- (BÉHAL and TIFFENEAU), 1908, A., i, 261.

$\psi$ -Propenyl-anisoles, -3:4-catechol methylene ether, -3:4-guaiacol and -3:4-veratrole (BÉHAL and TIFFENEAU), 1904, A., i, 742.

Propenylbenzene. See  $\alpha$ -Allylbenzene.

*iso*Propenylbenzene (MATSUBARA and PERKIN), 1905, T., 672.

*p*-*iso*Propenyltetra-bromophenol,  $\alpha$ -mono- and  $\alpha$ -di-bromo-, and their acetyl derivatives (ZINCKE and GRÜTERS), 1906, A., i, 173.

1-*iso*Propenyl-2-cyclobutanone and its derivatives (LEBEDEFF), 1911, A., i, 775.

4-*iso*Propenylcyclohexanone (PERKIN), 1904, T., 670; P., 86.

Propenylmesitylene (KLAGES and STAMM), 1904, A., i, 303.

*iso*Propenylmethylcyclo-nonanolone (RABE and WEILINGER), 1904, A., i, 509.

*p*-Propenylphenetole (VERLEY), 1905, A., i, 127.

synthesis of, and its dibromide (BÉHAL and TIFFENEAU), 1908, A., i, 260.

- p*- $\psi$ -Propenylphenetole and its dimeride (BÉHAL and TIFFENEAU), 1908, A., i, 262.
- Propenylphenetoles, *o*-, *m*-, and *p*-, and their reduction (KLAGES), 1904, A., i, 1002.
- o*-Propenylphenol (PAULY, v. BUTTLAR, and LOCKEMANN), 1911, A., i, 785.
- p*-Propenylphenol, synthesis of (BÉHAL and TIFFENEAU), 1908, A., i, 260.
- iso*Propenylphenol, bromo-derivatives, and their acetyl compounds (ZINCKE), 1906, A., i, 737.
- o*- $\psi$ -Propenylphenol (BÉHAL and TIFFENEAU), 1908, A., i, 261.
- Propenylphthalamic acid (JOHNSON and JONES), 1911, A., i, 455.
- Propenylphthalimide (JOHNSON and JONES), 1911, A., i, 455.
- Propenylsuccinic acid and its calcium salt (FICHTER and PROBST), 1910, A., i, 217.
- Propenyltetramethyl-*m*-phenylenediamine and its picrate (SACHS and APPENZELLER), 1908, A., i, 188.
- Propenyltolyl methyl ethers and their reduction (KLAGES), 1904, A., i, 1002.
- iso*Propenyltrimethylcyclopentene. See Trimethylisopropenylcyclopentene.
- Propenylveratrole, synthesis of (BÉHAL and TIFFENEAU), 1908, A., i, 260.
- Propeptone, action of, on dogs (NOLF), 1904, A., ii, 422.  
intestinal absorption of, in dogs (NOLF), 1904, A., ii, 425.
- Prophylaxis in malaria (GRAZIANI), 1910, A., ii, 982.
- Prophyllotaonin, zinc (MALARSKI and MARCHLEWSKI), 1909, A., i, 947.
- Propinol. See Propargyl alcohol.
- $\alpha$ -Propio- $\beta$ -iminobutyric acid and its ethyl ester and its nitroso-derivative, hydrochloride, and picrate (STADNICKOFF), 1909, A., i, 772.
- Propioiminomethyl ether (MATSUI), 1910, A., i, 696.
- Propioin and its acetyl derivative and semicarbazone (BOUVEAULT and LOCQUIN), 1906, A., i, 782.
- Propionaldehyde (*propargylaldehydic*) and its reactions (CLAISEN), 1904, A., i, 14.  
compounds of, with 5''-amino-4:4'-tetramethyldiamino-2''-methyltriphenylmethane (REITZENSTEIN and BÖNITSCH), 1912, A., i, 663.
- Propionaldehyde acetal, action of, on mercuriated amines (REITZENSTEIN and BÖNITSCH), 1912, A., i, 740.
- Propiolamide (MOUREU and BONGRAND), 1911, A., i, 22.
- Propiolic acid (*propargylic acid*) and its ethyl ester (PERKIN and SIMONSEN), 1907, T., 833.  
densities, magnetic rotations, and refractive powers of (PERKIN), 1907, T., 837.
- Propionacetal,  $\beta$ -hydroxy-, oxidation of (HARRIES), 1904, A., i, 15.
- d*-Propionacetal,  $\alpha$ -amino-, and its picrate and normal oxalate (FISCHER and KAMETAKA), 1909, A., i, 213.
- Propionacetalylmalonic acid, ethyl ester (ELLINGER), 1905, A., i, 827.
- Propionamide hydrobromide (WERNER), 1903, A., i, 235.
- Propionamide,  $\alpha$ - and  $\beta$ -amino- (FRANCHIMONT and FRIEDMANN), 1906, A., i, 71.  
iodo- (BOISMENU), 1912, A., i, 15.  
 $\alpha$ -nitro-, and its ammonium salt, and  $\alpha$ -bromo- $\alpha$ -nitro-, and  $\alpha$ -chloro- $\alpha$ -nitro- (STEINKOPF and SUPAN), 1911, A., i, 4.
- Propionamidophosphoryl dichloride,  $\alpha$ -dichloro- (STEINKOPF, BOHRMANN, GRÜNUPF, KIRCHHOFF, JÜRGENS, and BENEDEK), 1910, A., i, 308.
- Propionanilide. See Aniline, propionyl derivative.
- Propionatochromo-base, salts of a green and of a violet (WEINLAND and HOEHN), 1911, A., i, 104.
- Propione. See Diethyl ketone.
- Propione-pinacene, action of dilute sulphuric acid on (KOHN), 1905, A., i, 167.
- Propionic acid, latent heat of fusion and specific heat of (MASSOL and FAUCON), 1909, A., ii, 791.  
latent heat of vaporisation of (LUGNIN), 1903, A., ii, 7; (FAUCON), 1908, A., ii, 257.  
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vapour density of (FAUCON), 1908, A., i, 310.  
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conversion of, into dextrose in the body (RINGER), 1912, A., ii, 1196.  
mercury derivative. See  $\beta$ -Mercuridipropionic acid under Mercury.
- Propionic acid, ammonium salts (REIK), 1903, A., i, 308.

- Propionic acid**, complex chromium salts (WERNER, JOVANOVITS, ASCHKINAST, and POSSELT), 1908, A., i, 936.
- lead salt (*lead tetrapropionate*) (COLSON), 1903, A., i, 396, 456, 601.
- mercuric salt, compound of, with mercuric chloride (DONK), 1907, A., i, 819.
- sodium salt, compound of, with acetic anhydride (TSAKALOTOS), 1910, A., i, 458.
- uranyl alkali salts (RIMBACH, BÜRGER, and GREWE), 1904, A., ii, 265.
- Propionic acid**, cyanomethyl ester (HENRY), 1904, A., i, 982.
- ethyl ester, and ethyl acetate, vapour pressures and boiling points of mixtures of (YOUNG and FORTEY), 1903, T., 47.
- azoimides of (FORSTER and FIERZ), 1908, T., 669; P., 54.
- Propionic acid**,  $\alpha$ - and  $\beta$ -amino-. See  $\alpha$ - and  $\beta$ -Alanines.
- $\alpha\beta$ -diamino-, resolution of (FISCHER and JACOBS), 1906, A., i, 807.
- optically active (NEUBERG and ASCHER), 1906, A., i, 937.
- optically active modifications of (FISCHER and JACOBS), 1907, A., i, 393.
- conversion of, into isoserine (NEUBERG and SILBERMANN), 1904, A., i, 220; (ELLINGER), 1904, A., i, 230.
- dipeptide of, and its salts (FISCHER and SUZUKI), 1906, A., i, 73.
- methyl ester, and its dipeptide (FISCHER and SUZUKI), 1905, A., i, 121.
- behaviour of, in the body (MAYER), 1904, A., ii, 631.
- ethyl ester, hydrochloride (CURTIUS and MÜLLER), 1904, A., i, 482.
- $\alpha$ -amino- $\beta$ -hydroxy-. See Serine.
- $\beta$ -amino- $\alpha$ -hydroxy-. See *iso*Serine.
- $\alpha$ -amino- $\beta$ -thiocyano-, and its copper salt and its hydrochloride (MAUTNER), 1912, A., i, 335.
- $\alpha$ -bromo-, active components of (RAMBERG), 1906, A., i, 923.
- interaction of, and its sodium salt, with silver salts in aqueous solution (SEETER), 1910, T., 346; P., 23.
- interaction of, and its sodium salt, with water and with alkali (SEETER), 1909, T., 1827; P., 236.
- optically active, and its chloride (FISCHER and WARBURG), 1905, A., i, 692.
- Propionic acid**,  $\alpha$ -bromo-, carvacryl and thymyl esters (BISCHOFF, BLUMENTHAL, and KOWERSKI), 1907, A., i, 34.
- ethyl ester, condensation of, with cyclohexanones (WALLACH, EVANS, and MENDELSSOHN-BARTHOOLDY), 1908, A., i, 403.
- action of zinc on a mixture of, with cinnamaldehyde and with salicylaldehyde (BAIDAKOWSKY), 1906, A., i, 178.
- action of zinc on a mixture of, and *p*-tolualdehyde (STRSCHALKOVSKY), 1909, A., i, 304.
- guaiacyl and  $\alpha$ - and  $\beta$ -naphthyl esters (BISCHOFF, GUSSEW, WIELOWIEYSKI, and WILLUMS), 1907, A., i, 34.
- o*-, *m*-, and *p*-nitrophenyl esters (BISCHOFF, AMBARDANOFF, and SCHMÄHLING), 1907, A., i, 36.
- phenyl and *o*-, *m*-, and *p*-tolylesters (BISCHOFF, BIHMANN, GUSSEW, SMOLNIKOFF, and WACHTSMUTH), 1907, A., i, 33.
- p*-tolyl ester (AUWERS), 1912, A., i, 107.
- and  $\alpha$ -chloro-, glucinum salts (GLASMANN and NOVICKY), 1908, A., i, 121.
- and  $\alpha$ - and  $\beta$ -chloro-, and  $\alpha$ -iodo-, menthyl esters (COHEN), 1911, T., 1064.
- d*- $\alpha$ -bromo- (FISCHER and RASKE), 1907, A., i, 18.
- l*- $\alpha$ -bromo-, and its inactive form (RAMBERG), 1910, A., i, 4.
- conversion of, into active methylsuccinic acid (FISCHER and FLATAU), 1909, A., i, 205.
- $\beta$ -bromo-,  $\alpha\alpha$ -dibromo-, and  $\beta$ -chloro-, ethyl esters (DRUSHEL), 1912, A., i, 600.
- $\alpha\beta$ -dibromo-, formation of isoserine from (NEUBERG and ASCHER), 1907, A., i, 1014.
- action of alcoholic ammonia on (WARREN), 1912, A., i, 746.
- $\alpha$ -chloro-, ethyl ester, condensation of, with aldehydes (DARZENS), 1906, A., i, 137.
- condensation of, with ketones (DARZENS), 1906, A., i, 62.
- $\gamma$ -trichloro- $\beta$ -amino- (DIELS and SEIB), 1909, A., i, 886.
- $\alpha$ -cyano-, ethyl ester, reaction of, with benzaldehyde (BECCARI), 1904, A., i, 62.
- $\alpha$ -hydroxy-. See Lactic acid.



- Propionic acid**,  $\alpha$ -iodo-, and its salts (ZERNOFF), 1904, A., i, 136, 216.  
 ethyl ester (BODROUX and TABOURY), 1907, A., i, 583.  
 $\beta$ -iodo-, ethyl ester, preparation of (FLÜRSCHHEIM), 1904, A., i, 19.  
 and its action on ethyl disodioethanetetracarboxylate (SILBERRAD), 1904, T., 611; P., 61.  
 $\alpha$ -nitro-, and its salts (STEINKOPF and SUPAN), 1911, A., i, 4.  
 ethyl ester, and its sodium derivative (ULPIANI), 1903, A., i, 791.  
 $\beta\beta$ -dinitro-, methyl ester, and its potassium derivative (MEISENHEIMER and SCHWARZ), 1906, A., i, 618.  
 $\beta$ -nitroamino-, and its salts and amide (FRANCHIMONT and FRIEDMANN), 1907, A., i, 877.  
 $\alpha$ -nitroso-, ethyl ester (SCHMIDT and WIDMANN), 1909, A., i, 454.  
 dithio- (*ethylcarbithionic acid*), and its lead salt (HOUBEN and POHL), 1907, A., i, 475.  
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 methyl ester (HOUBEN and SCHULTZE), 1910, A., i, 711.  
 $\beta$ -thiol-, disulphide (FRIEDMANN), 1903, A., i, 75.  
**Perpropionic acid** (CLOVER and RICHMOND), 1903, A., i, 397; (D'ANS and FREY), 1912, A., i, 602.  
*dl*-**Propionic acid**,  $\alpha$ -iodo- (ABDERHALDEN and GUGGENHEIM), 1908, A., i, 887.  
**Propionic acid fermentation**. See under Fermentation.  
**Propionic peroxide** and its hydrolysis (CLOVER and RICHMOND), 1903, A., i, 397.  
**Propionitrile**, preparation of (AUGER), 1908, A., i, 81.  
 orthobaric densities of, to the critical point (GAZARIAN), 1906, A., ii, 423.  
 and ethyl alcohol, molecular refractions of mixtures of (HOMFRAY), 1905, T., 1438; P., 226.  
 additive compound of, with silicon tetrabromide (REYNOLDS), 1903, P., 280.  
**Propionitrile**,  $\alpha$ -amino-, salts and acyl derivatives of (DELÉPINE), 1904, A., i, 148.  
 chloro-, preparation of (BERGELL and FEIGL), 1908, A., i, 140.  
 dinitro-, and its salts (MEISENHEIMER and SCHWARZ), 1906, A., i, 618.  
**Propionobornylamide** (FRANKLAND and BARROW), 1909, T., 2025; P., 263.  
**Propionobromoiminoethyl ether** (KUHARA and MATSUI), 1907, A., i, 1015.  
*l*-**Propionoxyzisatin** (HELLER and SOURLIS), 1908, A., i, 208.  
**Propionyl chloride**,  $\alpha$ - and  $\beta$ -chloro-, and their  $\beta$ -toluidides (WOLFFENSTEIN and ROLLE), 1908, A., i, 282.  
*dl*-**Propionyl chloride**,  $\alpha$ -iodo- (ABDERHALDEN and GUGGENHEIM), 1908, A., i, 887.  
**Propionyl disulphide**, thio- (HOUBEN and POHL), 1907, A., i, 475.  
**Propionylacetic acid**,  $\gamma\delta$ -dichloro-, ethyl ester (SCHLOTTERBECK), 1909, A., i, 550.  
**Propionylacetophenone-*m*-hydroxanilide** (BÜLOW and ISSLER), 1904, A., i, 191.  
**Propionyl-*d*-alanine**, *d*-bromo- and *dl*- $\alpha$ -bromo- (FISCHER and SCHULZE), 1907, A., i, 296.  
*l*-**Propionyl-*d*-alanine**, bromo- (FISCHER and RASKE), 1906, A., i, 457.  
**Propionyl-*l*-alanine**, *d*-bromo- (FISCHER and RASKE), 1907, A., i, 18.  
*dl*-**Propionyl-*dl*-alanine**,  $\alpha$ -iodo-, and its ethyl ester (ABDERHALDEN, HIRSCH, and GUGGENHEIM), 1911, A., i, 954.  
**Propionylamino-**. See under the parent Substance.  
**Propionylbenzene**. See Propiophenone.  
**Propionylbenzyl cyanide**. See Benzyl ethyl ketone, cyano-.  
**2-Propionyl-1-benzyl-2-methylpyrrolidone** and its oxime (KÜHLING and FRANK), 1909, A., i, 955.  
**Propionylbenzylpropionic acid**, ethyl ester (DIECKMANN and KRON), 1908, A., i, 389.  
 $\alpha$ -*N*-**Propionyl-3:5-dibromo-2-hydroxybenzylphenylhydrazine** (AUWERS, HIRT, and MÜLLER), 1909, A., i, 224.  
 $\gamma$ -**Propionylbutyric acid** and its esters, oxime, and semicarbazone (BLAISE and MAIRE), 1908, A., i, 392.  
 semicarbazone and *p*-nitrophenylhydrazone (BLAISE and KÖHLER), 1910, A., i, 561.  
**Propionylbutyryl**. See Ethyl propyl diketone.  
**Propionylcampholic acid**, ethyl ester, and its semicarbazone (HALLER and WEIMANN), 1907, A., i, 278.  
**Propionylcamphor** (MALMGREN), 1903, A., i, 711.  
**Propionylcarbamide** (MERCK), 1904, A., i, 380.

- Propionylcarbinol and its esters, oxime, and semicarbazone (KLING), 1905, A., i, 503.
- 3-Propionylisocarbostyryl, 4-hydroxy-, and its phenylhydrazone (KOLSHORN), 1904, A., i, 676.
- Propionylcatechol, 4- $\alpha$ - and - $\beta$ -amino-, and their hydrochlorides (FARBEN-FABRIKEN VORM. F. BAYER & Co.), 1910, A., i, 314.
- Propionylcellulose (KNOLL & Co.), 1909, A., i, 290.
- o*-Propionyl-*p*-cresol,  $\alpha$ -chloro-, and its semicarbazone (AUWERS), 1912, A., i, 485.
- Propionylcyanoacetic acid, ethyl ester (BARON, REMFRY, and THORPE), 1904, T., 1748.
- Propionylcyanoacetic acid,  $\beta$ -chloro-, ethyl ester (WEIZMANN, DAVIES, and STEPHEN), 1912, P., 103.
- Propionyldiglycylglycine and its ethyl ester,  $\alpha$ -bromo- (FISCHER), 1908, A., i, 325.
- d*-Propionyldiglycylglycine,  $\alpha$ -bromo- (ABDERHALDEN and HIRSZOWSKI), 1908, A., i, 888.
- 4-Propionyl-2:3-dimethyl-5-ethylpyrrole (FISCHER and BARTHOLOMAUS), 1912, A., i, 646.
- 2-Propionyl-5-ethoxyphenoxyacetic acid (v. KOSTANECKI and TAMBOR), 1909, A., i, 320.
- Propionylethylmalonic acid and its ethyl ester and its semicarbazone (BLAISE and MAIRE), 1908, A., i, 391.
- 2-Propionyl-2-ethylcyclopentanone (BLAISE and KÖHLER), 1910, A., i, 627.
- 2-Propionyl-1-ethyl- $\Delta^1$ -cyclopentene and its oxime and semicarbazone (BLAISE and KÖHLER), 1909, A., i, 287.
- Propionylethyltartrondiamide (BARDROFF), 1912, A., i, 752.
- Propionylglucosamine,  $\alpha$ -bromo- (HOPWOOD and WEIZMANN), 1912, P., 261.
- Propionylglycine, *d*-bromo- (FISCHER), 1908, A., i, 324.
- l*- $\alpha$ -bromo- (FISCHER), 1907, A., i, 194.
- $\alpha\beta$ -*di*bromo- (FISCHER), 1904, A., i, 653.
- dl*-Propionylglycine,  $\alpha$ -iodo-, and its ethyl ester (ABDERHALDEN, HIRSCH, and GUGGENHEIM), 1911, A., i, 954.
- Propionylglycylglycine,  $\alpha$ -bromo-, and its ester (FISCHER), 1903, A., i, 799.
- d*- $\alpha$ -bromo- (FISCHER), 1908, A., i, 325.
- $\alpha\beta$ -*di*bromo- (FISCHER), 1904, A., i, 653.
- l*-Propionylglycylglycine, bromo- (FISCHER), 1906, A., i, 810.
- d*-Propionylglycyl-*l*-leucine,  $\alpha$ -bromo- (ABDERHALDEN and FODOR), 1912, A., i, 951.
- d*-Propionylglycyl-*l*-tyrosine,  $\alpha$ -bromo- (FISCHER), 1907, A., i, 901.
- Propionylglyoxalic acid ethyl ester and its semicarbazone (WAHL and DOLL), 1912, A., i, 536.
- $\delta$ -Propionyl-*n*-heptoic acid, and its derivatives (BLAISE and KÖHLER), 1910, A., i, 627.
- 2-Propionylcyclohexanone (BLAISE and KÖHLER), 1909, A., i, 479.
- derivatives of (BLAISE and KÖHLER), 1910, A., i, 627.
- $\delta$ -Propionyl-*n*-hexoic acid and its semicarbazone (BLAISE and KÖHLER), 1910, A., i, 627.
- Propionylhexoyl (LOCQUIN), 1905, A., i, 20.
- Propionylhexoyloximes (LOCQUIN), 1905, A., i, 20.
- Propionylhydrazide, *dicyano*- (RINMAN), 1905, A., i, 389.
- Propionylhydrazides, conversion of, into heterocyclic compounds (STOLLÉ and HILLE), 1904, A., i, 695.
- Propionyliminocycloheptanecarboxylic acid, attempt to synthesise (STADNIKOFF), 1908, A., i, 265.
- 3-Propionylindole and its derivatives (ODDO and SESSA), 1911, A., i, 487.
- Propionylisatin (MEYER), 1906, A., i, 108.
- Propionyl-leucinamide, bromo- (BERGELL and v. WULFING), 1910, A., i, 365.
- Propionyl-*l*-leucine, *d*-bromo- (FISCHER), 1907, A., i, 486.
- d*-Propionyl-*d*-isoleucine,  $\alpha$ -bromo- (ABDERHALDEN, HIRSCH, and SCHULER), 1909, A., i, 770.
- $\alpha$ -*d*-Propionyl-*l*-leucylglycine (ABDERHALDEN and FODOR), 1912, A., i, 951.
- d*-Propionyl-*l*-leucyl-*d*-isoleucine,  $\alpha$ -bromo- (ABDERHALDEN and HIRSCH), 1910, A., i, 720.
- Propionylmethylacetic acid. See Propionylpropionic acid.
- 4-Propionyl-2-methylanisole and its oxime (KLAGES), 1904, A., i, 1002.
- Propionylmethylcarbinol (PASTUREAU), 1909, A., i, 203.
- 3-Propionyl-1-methyl- $\Delta^2$ -cyclohexene and its semicarbazone (WALLACH and RENTSCHLER), 1908, A., i, 405.
- 2-Propionyl-2-methylcyclopentanone (BLAISE and KÖHLER), 1910, A., i, 627.

- o*-Propionyloxybenzoic acid**,  $\alpha$ -bromo- (CHEMISCHE FABRIK VON HEYDEN), 1909, A., i, 798.
- 2-Propionylcyclopentanone** and its methyl and ethyl derivatives (BLAISE and KÖHLER), 1909, A., i, 479.
- salts and derivatives of (BLAISE and KÖHLER), 1910, A., i, 627.
- Propionylphenylacetamide** (DIMROTH and FEUCHTER), 1903, A., i, 630.
- Propionylphenylacetic acid**, ethyl ester, action of phosphorus pentabromide on (DIMROTH and FEUCHTER), 1903, A., i, 631.
- and the action of phosphorus pentachloride on (DIMROTH and FEUCHTER), 1903, A., i, 629.
- Propionylphenylacetylene** and the action of hydroxylamine on (MOUREU and BRACHIN), 1904, A., i, 95.
- reaction of, with magnesium methyl iodide (BRACHIN), 1907, A., i, 129.
- p*-Propionylphenylcarbamide** (KUNCKELL), 1911, A., i, 990.
- Propionyl-*N*-phenylglycine**,  $\alpha$ -bromo-, and its methyl ester (FISCHER and GLUUD), 1909, A., i, 888.
- Propionylphosphamic chloride**, *di*- $\alpha$ -chloro- (STEINKOPF and BENEDEK), 1908, A., i, 963.
- Propionylpropionic acid**, ethyl ester, derivatives of (EMMERLING and KRISTELLER), 1906, A., i, 623.
- $\alpha$ -Propionylpropionic acid**,  $\alpha$ -cyano-, ethyl ester (BARON, REMFRY, and THORPE), 1904, T., 1752.
- $\alpha'$ -cyano-, ethyl ester (THORPE), 1912, T., 257.
- $\beta$ -Propionylpropionic acid** and its semicarbazone and ethyl ester (MAIRE), 1908, A., i, 248.
- Propionylpyruvic acid** and its ethyl ester (DIELS, SIELSCH, and MÜLLER), 1906, A., i, 438.
- Propionylserine**,  $\alpha$ -bromo- (FISCHER and RÖESNER), 1910, A., i, 658.
- Propionyltolyl methyl ethers** and their oximes (KLAGES), 1904, A., i, 1003.
- Propionyltropeine**,  $\alpha\beta$ -*di*bromo- and  $\alpha$ - and  $\beta$ -chloro-, and their additive salts (WOLFFENSTEIN and ROLLE), 1908, A., i, 282.
- d*-Propionyl-*L*-tyrosine**,  $\alpha$ -bromo-, and its ethyl ester, and  $\alpha$ -bromo-3:5-*di*-iodo- (ABDERHALDEN and HIRSZOWSKI), 1908, A., i, 888.
- dl*-Propionyl-*L*-tyrosine**, iodo-derivatives (ABDERHALDEN and GUGGENHEIM), 1908, A., i, 887.
- Propionylisovaleryl**. See Ethyl isobutyl diketone.
- Propionyl-*d*-valine**, *d*- $\alpha$ -bromo- (FISCHER and SCHEIBLER), 1908, A., i, 958.
- Propionylveratrole**,  $\alpha$ -amino- (FARBEN-FABRIKEN VORM. F. BAYER & Co.), 1910, A., i, 314.
- Propiophenone** (*phenyl ethyl ketone*: *propionylbenzene*), physical properties of (EYKMAN), 1904, A., i, 591.
- condensation of, with benzylideneacetophenone (ABELL), 1903, T., 360; P., 17.
- desaurin from (KELBER and SCHWARZ), 1912, A., i, 207.
- pinacone from (STERN), 1906, A., i, 271.
- amino- and nitro-derivatives (COMANDUCCI and PESITELLI), 1906, A., i, 965.
- azine of (KNÖPFER), 1911, A., i, 1034.
- semicarbazone (WOLFF, BOCK, LORNTZ, and TRAPPE), 1903, A., i, 205.
- Propiophenone**, *p*-amino-, and its derivatives (KUNCKELL), 1911, A., i, 990.
- and its salts, and bromo-, chloro-, and acyl derivatives of (CHATTAWAY), 1903, P., 124.
- acyl derivatives (CHATTAWAY), 1904, T., 391; P., 43.
- $\alpha$ -amino-, salts and derivatives of (CALLIESS), 1912, A., i, 365.
- benzoyl, *o*-toluoyl, and cinnamoyl derivatives (LISTER and ROBISON), 1912, T., 1314.
- $\alpha$ - and  $\beta$ -amino-, salts of (GABRIEL), 1908, A., i, 181.
- $\beta$ -chloro-, and  $\alpha\beta$ -*di*bromo- (KÖHLER), 1909, A., i, 939.
- $\beta$ -hydroxy-. See Methylolacetophenone.
- 2:4:5-*tri*hydroxy-4:5-dimethyl ether. See 3:4-Dimethoxypropiophenone, 6-hydroxy-.
- Propiophenone-*o*-carboxylic acid** and its reactions (DAUBE), 1905, A., i, 210.
- Propiophenone-*o*-carboxylic acid**, 3:4-*di*-bromo- (SIMONIS and ARAND), 1909, A., i, 933.
- Propiophenoneoxime-*o*-carboxylic acid**, anhydride of (DAUBE), 1905, A., i, 210.
- Propiophenonyl-carbamide** and **phenylthiocarbamide** (GABRIEL), 1908, A., i, 181.
- Propolis** (GRESHOFF and SACK), 1903, A., i, 602.
- resin (DIETERICH), 1912, A., i, 280.



- Propoxide**, sodium, action of, on camphor at a high temperature (HALLER and MINGUIN), 1906, A., i, 594.
- Propoxyacetonitrile**, preparation of, and the thioamide (GAUTHIER; SOMMELET), 1907, A., i, 21.
- amide of (GAUTHIER), 1909, A., i, 354.
- o*-, *m*-, and *p*-**Propoxybenzoic acid**, menthyl esters of (COHEN and DUDLEY), 1910, T., 1742.
- o*- and *p*-**isoPropoxybenzoic acid**, menthyl esters of (COHEN and DUDLEY), 1910, T., 1743.
- 6-Propoxybenzonitrile**, 2-nitro- (DE BRUYN and VAN GEUNS), 1904, A., i, 388.
- o*-**Propoxybenzyl bromide**, dibromo- (AUWERS, HIRT, and MÜLLER), 1909, A., i, 223.
- $\beta$ -Propoxybutan- $\gamma$ -one** (GAUTHIER), 1909, A., i, 354.
- Propoxytetrachloroethane** (VITORIA), 1905, A., i, 111.
- $\beta$ -Propoxy- $\alpha\alpha$ -dichloropropylene** (VITORIA), 1905, A., i, 110.
- a*- and *b*-**o-Propoxycinnamide** (STOERMER, FRIDERICI, BRÄUTIGAM, and NECKEL), 1911, A., i, 296.
- a*- and *b*-**o-Propoxycinnamic acid** (STOERMER, FRIDERICI, BRÄUTIGAM, and NECKEL), 1911, A., i, 296.
- 4-Propoxy-7-methylcoumarin-3-carboxylic acid**, ethyl ester (ANSCHÜTZ, WAGNER, and JUNKERSDORF), 1909, A., i, 663.
- 2-Propoxy- $\alpha$ -naphthoic acid** (BODROUX), 1903, A., i, 420; 1904, A., i, 167.
- $\beta$ -Propoxy- $\beta$ -phenylacrylic acid**, *a*-cyano-, methyl ester (SCHMITT), 1903, A., i, 399.
- $\beta$ -Propoxy- $\beta$ -phenylacrylonitrile**, synthesis of (MOUREU and LAZENNEC), 1906, A., i, 241.
- b*-Propoxyphenylpropionic acid** (STOERMER, FRIDERICI, BRÄUTIGAM, and NECKEL), 1911, A., i, 296.
- $\beta$ -Propoxy- $\beta$ -phenylpropionic acid** (SCHRAUTH, SCHOELLER, and STRUENSEE), 1911, A., i, 642.
- m*-Propoxy- $\beta$ -phenylpropionic acid** (FARBENFABRIKEN VORM. F. BAYER & Co.), 1911, A., i, 865.
- $\beta$ -Propoxypropionic acid**, propyl ester (PALOMAA and KILPI), 1911, A., i, 176.
- $\alpha$ -Propoxypropionitrile** (GAUTHIER), 1909, A., i, 354.
- 6-Propoxy-2-propylquinol** (THOMS), 1903, A., i, 558.
- 4-*n*-Propoxyquinazoline** (BOGERT and MAY), 1909, A., i, 329.
- n*-Propyl alcohol**, behaviour of solutions of, towards semi-permeable membranes (FINDLAY and SHORT), 1905, T., 819; P., 170.
- and benzene and *n*-propyl alcohol and water, viscosity of (DUNSTAN), 1905, T., 12.
- and water, viscosity-concentration curves for (DUNSTAN and THOLE), 1909, T., 1559; P., 219.
- specific gravity of mixtures of water and (DOROSCHEWSKY and ROSCHDESTVENSKY), 1910, A., i, 85.
- chlorination of (ODDO and CUSMANO), 1905, A., i, 402.
- oxidation of, by a contact process (ORLOFF), 1908, A., i, 306.
- condensation of, with heptyl alcohol (GUERBET), 1903, A., i, 61.
- Propyl alcohol**,  $\alpha$ -amino-, derivatives of (GABRIEL), 1905, A., i, 649.
- iso*Propyl alcohol**, boiling points of aqueous solutions of (DOROSCHEWSKY and POLJANSKY), 1911, A., i, 253.
- condensation of, with its sodium derivative (GUERBET), 1909, A., i, 690.
- iso*Propyl alcohol**,  $\alpha\alpha$ -dibromo-, preparation of (FREUNDLER), 1907, A., i, 174.
- $\alpha$ -chloro- (MICHAEL), 1906, A., i, 781.
- dichloro-, and its benzoyl derivative (WOHL and ROTH), 1908, A., i, 942.
- preparation of (WOHL and ROTH), 1907, A., i, 170.
- $\alpha$ -trichloro- (HENRY), 1904, A., i, 279; (FARBENFABRIKEN VORM. F. BAYER & Co.), 1904, A., i, 794.
- and its acetate (VITORIA), 1905, A., i, 110.
- decomposition of (MOSSLER), 1908, A., i, 751.
- action of phosphorus chlorides on, and its bromide and chloride (HENRY), 1905, A., i, 558.
- aci*-dinitro-, and its potassium salt (DUDEN and PONNDORF), 1905, A., i, 558.
- Propyl amyl ether** (HAMONET), 1904, A., i, 401.
- antimonite (MACKEY), 1909, T., 607; P., 98.
- arsenite (AUGER), 1907, A., i, 109; (LANG, MACKEY, and GORTNER), 1908, T., 1367; P., 150.
- isobutyl* ether** (HENRY), 1904, A., i, 466.
- chloride, action of ethylamine on (COMANDUCCI and ARENA), 1908, A., i, 138.

- Propyl cuprocyanide** (GUILLEMARD), 1908, A., i, 720.
- ether and its chloro-derivatives (ODDO and CUSMANO), 1904, A., i, 281.
- preparation of (VAN HOVE), 1907, A., i, 173.
- compound of, with nitric acid (COHEN and GATECLIFF), 1904, P., 195.
- monochloro-*,  *$\beta$ -chloro- $\alpha\beta$ -dibromo-*, and *tetrachloro-*, and their derivatives (ODDO and CUSMANO), 1911, A., i, 942.
- iodide, condensation of, with ethyl acetoacetate, by calcium ethoxide (PERKIN and PRATT), 1909, T., 162.
- iodochloride (THIELE and PETER), 1905, A., i, 736.
- oxide, *dihydroxy-* (NEF), 1905, A., i, 5.
- sulphite and its sodium salt (ROSENHEIM and SAROW), 1905, A., i, 404.
- iso*Propyl carbamate,  *$\beta\beta$ -dichloro-* (*alcudrin*), pharmacological action of (MAASS), 1912, A., ii, 967.
- ether, formation of, from isopropyl alcohol by sulphuric acid (SOUTHERDEN), 1904, P., 117.
- iodide, action of, on magnesium (TSCHELINZEFF), 1904, A., i, 641.
- n-* and *iso*Propyl bromides, equilibrium isomerism on heating (FAWORSKY), 1907, A., i, 741.
- $\alpha$ -naphthylcarbamates* (NEUBERG and KANSKY), 1909, A., i, 690.
- iso*Propylacetaldehyde. See *iso*Valeraldehyde.
- cyclo*Propylacetic acid and its salts (DEMJANOFF and DOJARENKO), 1908, A., i, 156.
- iso*Propylacetoacetaldehyde and its copper salt (COUTURIER and VIGNON), 1905, A., i, 571.
- n*-Propylacetacetamide (GUARESCHI), 1905, A., i, 822.
- iso*Propylacetone. See Methyl *isobutyl* ketone.
- $\beta$ -nitroso-*. See Methyl  *$\beta$ -nitrosoisobutyl* ketone.
- $\alpha$ -iso*Propyl- $\gamma$ -acetylbutyric acid and its semicarbazone (SCHIMMEL & Co.), 1910, A., i, 758.
- $\beta$ -iso*Propyl- $\gamma$ -acetylbutyric acid and its semicarbazone and oxime (WALLACH), 1911, A., i, 310.
- cyclo*Propylacetylcyclopropane and its semicarbazone (MICHELIS), 1912, A., i, 259.
- $\alpha$ -Propylacraldehyde* and its semicarbazone (SOMMELET), 1907, A., i, 109.
- $\alpha$ -Propylacrylic acid* and its ester and potassium salt (BLAISE and LUTTRINGER), 1905, A., i, 628.
- $\alpha$ -iso*Propylacrylic acid and its ethyl ester and dibromide (BLAISE and LUTTRINGER), 1905, A., i, 628.
- Propyl acyl- $\delta$ -aminobutyl ketones and their oximes and semicarbazones (v. BRAUN and STEINDORFF), 1905, A., i, 812.
- $\alpha$ -iso*Propyladipic acid (BLANC), 1905, A., i, 683.
- methyl ester (KÖTZ and SCHÜLER), 1907, A., i, 58.
- $\beta$ -iso*Propyladipic acid (WALLACH and CHALLENGER), 1911, A., i, 472.
- r- $\beta$ -iso*Propyladipic acid, preparation of (BLANC), 1908, A., i, 245.
- cyclo*Propylaldehyde and its semicarbazone (DEMJANOFF and FORTUNATOFF), 1907, A., i, 1032.
- p-iso*Propylallylbenzene (KUNCKELL), 1903, A., i, 617.
- Propylallylmalonic acid,  *$\beta$ -hydroxy-*, and its silver salt (JOHNSON and HILL), 1911, A., i, 503.
- Propylamine peroxide, preparation of (KUROWSKI and NISSENMAN), 1911, A., i, 608.
- Propylamine,  *$\beta$ -bromo-* and *dibromo-*, hippuryl derivatives (DIELS and BECCARD), 1907, A., i, 57.
- iso*Propylamine, oxidation of (BAMBERGER and SELIGMAN), 1903, A., i, 323.
- n*-Propylaminoacetal and its derivatives (PAAL and VAN GEMMER), 1908, A., i, 511.
- Propylaminoacetic acid, menthyl ester (FRANKLAND and O'SULLIVAN), 1911, T., 2335; P., 319.
- Propylaminoacetonitrile, cyano- (v. BRAUN), 1907, A., i, 900.
- Propylaminocyclohexane and its phenylcarbamide (SABATIER and MAILHE), 1912, A., i, 103.
- Propylammonium nitrite (RÂY and RAKSHIT), 1911, P., 291; 1912, T., 141.
- palladi-bromide and -chloride (GUTBIER and WOERNLE), 1907, A., i, 88.
- selenibromide (GUTBIER and GRÜNEWALD), 1912, A., i, 241.
- telluri-bromide and -chloride (GUTBIER, FLURY, and MICHELER), 1911, A., i, 182.
- tungstate (EKELEY), 1909, A., i, 556.
- iso*Propylammonium rutheni-bromide and -chloride (GUTBIER and LEUCHS), 1911, A., i, 183.

- iso*Propylammonium telluri-bromide and -chloride (GUTBIER, FLURY, and MICHELER), 1911, A., i, 182.
- n*- and *iso*-Propylammonium iridichlorides (GUTBIER and LINDNER), 1909, A., ii, 1026.
- iridi-chlorides and -bromides (GUTBIER and RIESS), 1910, A., i, 97.
- osmichloride (GUTBIER and MAISCH), 1911, A., i, 91.
- platinibromide (GUTBIER and BAURIEDEL), 1910, A., i, 12.
- Propylisoamylamine (SABATIER and MAILHE), 1909, A., i, 293.
- Propyl-*n*-amylcarbinol and its acetate (PEXSTERS), 1907, A., i, 376.
- iso*Propyl-*n*-amylcarbinol and its derivatives (PICKARD and KENYON), 1912, T., 629.
- cyclo*- and *iso*-Propylisoamylcarbinols (MICHIELS), 1912, A., i, 259, 260.
- $\gamma$ -*cyclo*Propyl- $\Delta\beta$ -amylene (BRUYLANTS), 1909, A., i, 228.
- Propyl amyl ketone and its semicarbazone (BOUYEAULT and LOCQUIN), 1905, A., i, 18.
- iso*Propyl *n*-amyl ketone (PICKARD and KENYON), 1912, T., 629.
- cyclo*Propyl *iso*amyl ketone and its semicarbazone (MICHIELS), 1912, A., i, 259.
- iso*Propylanthydroacetonebenzils,  $\alpha$ - and  $\beta$ - (JAPP and KNOX), 1905, T., 673; P., 152.
- Propylaniline, nitroso- (KÖNIG and BECKER), 1912, A., i, 496.
- o*-Propylaniline,  $\beta$ -chloro-, and its *N*-benzoyl derivative (v. BRAUN and STEINDORFF), 1905, A., i, 81, 156.
- $\gamma$ -chloro-, and its salts (v. BRAUN and STEINDORFF), 1905, A., i, 294.
- N*-naphthoyl derivative of (v. BRAUN), 1905, A., i, 236.
- p*-Propylaniline,  $\gamma$ -chloro-, and its derivatives (v. BRAUN and DEUTSCH), 1912, A., i, 845.
- iso*Propylaniline, 2:4-*di*- and 2:4:6-*tri*-nitro-, synthesis of (MULDER), 1906, A., i, 492.
- n*-Propylanilopyrines, 2- and  $\omega$ -, and their derivatives (MICHAELIS and MIELECKE), 1908, A., i, 62.
- p*-Propylanisole and its nitro-compound and sulphonic acid (HENRARD), 1907, A., i, 411.
- Propylanisoles, *p*-, *n*-, and *iso*- (KLAGES), 1904, A., i, 1001.
- 2-*n*-Propylanthranol-9 (SCHOLL, POT-SCHWAUSCHEG, and LENKO), 1911, A., i, 1008.
- 2-*n*-Propylanthraquinone, and 1-amino-, 1-iodo-, and 1-nitro- (SCHOLL, POT-SCHWAUSCHEG, and LENKO), 1911, A., i, 1008.
- 2-*iso*Propylanthraquinone, and 1-amino-, 1-iodo-, and 1-nitro- (SCHOLL, POT-SCHWAUSCHEG, LENKO, and BÖCKER), 1911, A., i, 1009.
- 2-*n*-Propylanthrone-9 (SCHOLL, POT-SCHWAUSCHEG, and LENKO), 1911, A., i, 1009.
- 2-*iso*Propylanthrone-9 (SCHOLL, POT-SCHWAUSCHEG, LENKO, and BÖCKER), 1911, A., i, 1009.
- n*-Propylarsinic acid and its magnesium salt and *n*-Propylarsine disulphide (DEHN and McGRATH), 1906, A., i, 341.
- 5-Propylbarbituric acid (5-*propyl*-malonylcarbamide), 4-imino- (CONRAD), 1905, A., i, 751.
- iso*Propylbenzamarone (KLAGES and TETZNER), 1903, A., i, 101.
- o*-Propylbenzanilide,  $\gamma$ -chloro- (v. BRAUN), 1904, A., i, 918.
- o*-*iso*Propylbenzanilide,  $\beta$ -chloro- (v. BRAUN and KIRSCHBAUM), 1912, A., i, 500.
- n*-Propylbenzene (KLAGES), 1903, A., i, 329.
- equilibrium of, with antimony trichloride (MENSCHUTKIN), 1911, A., i, 532.
- formation of acetophenones from derivatives of (MAMELI, BONN, and BIGNAMI), 1909, A., i, 721.
- n*-Propylbenzene, *p*-amino-, *p*-iodoso-, and *p*-iodoxy- (WILLGERODT and SCKERL), 1903, A., i, 746.
- benzoyl derivative (SCHULTZ and PERI), 1909, A., i, 898.
- $\gamma$ -bromo- (RUPE and BÜRGIN), 1910, A., i, 161.
- $\alpha\beta$ -dibromo- (KUNCKELL and DETTMAR), 1912, A., i, 431.
- $\beta\gamma$ -dibromo- (AGEEWA), 1905, A., i, 776.
- $\beta$ -bromo- $\alpha$ -hydroxy- (MAMELI and BROCCA), 1909, A., i, 714.
- $\beta$ -bromo- $\alpha$ -3:4-*tri*hydroxy-, acetate of (BÖTTCHER), 1909, A., i, 154.
- di*- $\gamma$ -bromo- $\gamma$ -nitro-, and  $\gamma$ -nitro- (v. BRAUN and KRUBER), 1912, A., i, 266.
- $\gamma$ -chloro- (MERCK), 1912, A., i, 175.
- $\alpha\beta\gamma\gamma$ -tetrachloro- (CLARKE), 1910, T., 898; P., 96.
- and  $\gamma\gamma$ -dichloro- $\alpha\beta$ -dibromo- (CHARON and DUGOUJON), 1903, A., i, 240.
- $\beta$ -chloro- $\alpha$ -3:4-*tri*hydroxy- (BÖTTCHER), 1909, A., i, 154.



- n*-Propylbenzene,  $\beta$ -imino- $\gamma$ -cyano-, preparation of, and formation of 1:3-naphthylenediamine from (BEST and THORPE), 1908, P., 283.
- $\gamma$ -iodo- (V. BRAUN), 1910, A., i, 844.
- $p$ -iodo-, containing multivalent iodine, derivatives of (WILLGERODT and SCKERL), 1903, A., i, 746.
- 6-nitro-3:4-dihydroxy- (THOMS and BILTZ), 1904, A., i, 399.
- d*-Propylbenzene,  $\alpha$ -chloro- (PICKARD and KENYON), 1911, T., 71.
- iso*Propylbenzene. See Cumene.
- n*-Propylbenzenesulphonamide (SCHULTZ and FÜHRER), 1909, A., i, 899.
- n*-Propylbenzocycloheptadienone (THIELE and WEITZ), 1910, A., i, 854.
- 4-*n*-Propylbenzophenone-2'-carboxylic acid (SCHOLL, POTSCHWAUSCHEG, and LENKO), 1911, A., i, 1008.
- 4-*iso*Propylbenzophenone-2'-carboxylic acid (SCHOLL, POTSCHWAUSCHEG, LENKO, and BÖCKER), 1911, A., i, 1009.
- 2-*iso*Propylbenzopyronium ferrichloride (DECKER and V. FELLEBERG), 1909, A., i, 117.
- cycloPropylbenzylamine and its salts (KIJNER), 1911, A., i, 989.
- p*-*iso*Propylbenzylidene-*p*-aminobenzoic acid (MANCHOT and FURLONG), 1910, A., i, 34.
- p*-*iso*Propylbenzylidenebisphenylanilinoacetamide (MINOVICI and ZENOVICI), 1912, A., i, 700.
- p*-*iso*Propylbenzylidenebisphenylchloroacetamide (MINOVICI and ZENOVICI), 1912, A., i, 700.
- p*-*iso*Propylbenzylidenebisphenylphenylhydrazinoacetamide (MINOVICI and ZENOVICI), 1912, A., i, 700.
- $\alpha$ -*p*-*iso*Propylbenzylidenedeoxybenzoin and its isomeride (KLAGES and TETZNER), 1903, A., i, 101.
- iso*Propylbenzylidenedi-*iso*amyl ether (FRANZEN and ZIMMERMANN), 1907, A., i, 661.
- Propylbenzylidene-3-methylcyclohexanone, rotation of (HALLER), 1903, A., i, 564.
- 4-*iso*Propylbenzylidenerrhodanic acid (BARGELLINI), 1906, A., i, 536.
- 4-*iso*Propylbenzylidenerrhodanic acid, 3-nitro- (PIZZUTI), 1911, A., i, 62.
- 4-*p*-*iso*Propylbenzylisocouinoline and its salts (RÜGHEIMER and ALBRECHT), 1903, A., i, 440.
- $\alpha$ -Propylberberine hydriodide (FREUND and MAYER), 1907, A., i, 633.
- Propylboric acid (KHOTINSKY and MELAMED), 1909, A., i, 864.
- Propyl- $\epsilon$ -bromoamyleyanamide,  $\gamma$ -bromo- (V. BRAUN), 1909, A., i, 507.
- Propyl- $\epsilon$ -bromoamylimine,  $\gamma$ -bromo-, hydrobromide (V. BRAUN), 1909, A., i, 507.
- 1-*iso*Propyl-4- $\alpha\beta$ -dibromopropylbenzene (KUNKELL and DETTMAR), 1912, A., i, 432.
- 1-*iso*Propyl-2-cyclobutanone and its semicarbazone (LEBEDEFF), 1911, A., i, 775.
- $\beta$ -Propyl- $\Delta\beta$ -butenoic acids, *n*- and *iso*-,  $\gamma$ -cyano- (GUARESCHI), 1907, A., i, 1004.
- iso*Propylisobutenylbenzene (SCHUBERT), 1903, A., i, 626.
- Propylisobutyrylacetic acid. See  $\alpha$ -*iso*-Butylvaleric acid.
- Propylisobutylcarbinol and its acetate (MUSET), 1907, A., i, 375.
- iso*Propyl-*n*-butylcarbinol, and resolution of, and its derivatives (PICKARD and KENYON), 1912, T., 629.
- and its acetate (MUSET), 1907, A., i, 374.
- iso*Propylisobutylcarbinol (MICHIELS), 1912, A., i, 260.
- cycloPropylbutylcarbinol (MICHIELS), 1911, A., i, 63.
- cycloPropylisobutylcarbinol (MICHIELS), 1911, A., i, 63.
- cycloPropylbutylcarbinyl bromide (MICHIELS), 1911, A., i, 63.
- $\beta$ -cycloPropyl- $\Delta\beta$ -butylene (BRUYLANTS), 1909, A., i, 228.
- iso*Propyl *n*-butyl ketone and its semicarbazone (PICKARD and KENYON), 1912, T., 628.
- Propylisobutyl ketone, semicarbazone of (BOUVEAULT and LOCQUIN), 1905, A., i, 18.
- cycloPropyl butyl ketone (MICHIELS), 1911, A., i, 63.
- cycloPropyl isobutyl ketone (MICHIELS), 1911, A., i, 63.
- Propylisobutylmalonic acid and its ethyl ester (FISCHER, HOLZAPFEL, and V. GWINNER), 1912, A., i, 157.
- iso*Propylisobutylsuccinic acids (*nonanedicarboxylic acids*), *cis*- and *trans*- (BEATTY), 1903, A., i, 726.
- isomeric, and their salts and anhydrides (FICHTER and GLASER), 1908, A., i, 660.
- $\alpha$ -*iso*Propylbutyric acid,  $\beta$ -hydroxy- (WÖGRINZ), 1903, A., i, 604.
- synthesis of, and ethyl ester and salts (MATSCHUREVITSCH), 1910, A., i, 89.
- Propylbutyrylacetic acids, *n*- and *iso*-ethyl esters (LOCQUIN), 1904, A., i, 552.

Propyl-camphol and its acetate and -camphor (HALLER and MINGUIN), 1906, A., i, 594.

Propylcamphor, cyano-, isomeric, and their rotation (HALLER), 1903, A., i, 503.

*iso*Propylcamphor, hydroxy- (MALMGREN), 1903, A., i, 103.

*C*-Propylcamphorcarboxylic acid, methyl ester, and its isomeride (HALLER), 1903, A., i, 503.

*iso*Propylcarbamide (CONDUCHÉ), 1903, A., i, 155.

*O*-Propylisocarbamide and its hydrochloride (STIEGLITZ and NOBLE), 1905, A., i, 639.

*iso*Propylcarbamidcarboxylic acid, ethyl and methyl esters (MAUGUIN), 1911, A., i, 358.

*n*- and *iso*-Propylcarbazoles and their picrates (LEVY), 1912, A., i, 304.

*cyclo*Propylcarbinol (*trimethylenecarbinol*) and its derivatives, preparation and properties of (DEMJANOFF and FORTUNATOFF), 1907, A., i, 1032.

and its acetate (MICHIELS), 1911, A., i, 63.

*cyclo*Propylcarbinyl ethyl ether (MICHIELS), 1911, A., i, 64.

Propylcarbithionic acid. See *n*-Butyric acid, *dithio*-.

3-*iso*Propylisocarbostyryl, 4-hydroxy- (ULRICH), 1904, A., i, 529.

Propylcarbylamine (GUILLEMARD), 1908, A., i, 719.

2-Propylcarveol. See 2-Propyl- $\Delta^6:8^{(9)}$ -menthadien-2-ol.

Propylcatechol, dichloromethylene ether, action of potassium hydroxide on (DELANGE), 1907, A., i, 700.

Propylcatechol, dichloro-, cyclic carbonates of (BARGER), 1908, T., 2081; P., 237.

*iso*Propylcatechol and its carbonate and dichloromethylene ether (DELANGE), 1904, A., i, 741.

5-Propylcatechol carbonate (DELANGE), 1904, A., i, 814.

Propylcatecholmethylenedisulphonic acid (DELANGE), 1907, A., i, 700.

*p*-*iso*Propyl- $\alpha$ -chlorobenzyldeoxybenzoin (KLAGES and TETZNER), 1903, A., i, 101.

*cyclo*Propyl chloromethyl ketone (MICHIELS), 1911, A., i, 63.

*n*-Propyl  $\beta$ -chloropropylene ether (ODDO and CUSMANO), 1911, A., i, 942.

Propyltrichlorosilane (MELZER), 1908, A., i, 967.

$\beta$ -*n*-Propylcinnamic acid (SCHROETER), 1907, A., i, 531; (SCHROETER and BUCHHOLZ), 1908, A., i, 170. and its ethyl ester (TIFFENEAU), 1907, A., i, 406.

1-Propylcitronellol (AUSTERWEIL and COCHIN), 1910, A., i, 572.

Propylcoumaric acid. See *a-o*-Propoxycinnamic acid.

Propylcoumarinic acid. See *b-o*-Propoxycinnamic acid.

4-*iso*Propyl-*m*-cresol,  $\alpha$ -hydroxy- (HOERING and BAUM), 1909, A., i, 572.

6-*iso*Propyl-*m*-cresol,  $\alpha$ -hydroxy- (HOERING and BAUM), 1909, A., i, 571.

Propyleanoacetamide (GUARESCHI), 1903, A., i, 737.

2-Propyl-*p*-cymene and its optical constants and sulphonic acid and its derivatives (KLAGES), 1907, A., i, 598.

*iso*Propyl-*n*-decylcarbinol and rotation and derivatives of (PICKARD and KENYON), 1912, T., 629.

*iso*Propyl *n*-decyl ketone (PICKARD and KENYON), 1912, T., 629.

Propyldialylcarbinols, *n*- and *iso*- (SAYTZEFF, PETROFF, MUSUROFF, CHOWANSKY, ANDRÉEFF, CHONOWSKY, and LUNIAK), 1907, A., i, 815.

$\alpha$ -Propyldihydroberberine and its hydriodide (MERCK), 1907, A., i, 436; (FREUND and MAYER), 1907, A., i, 633.

2-Propyldihydroisindole, and its derivatives (SCHOLTZ and WOLFRUM), 1910, A., i, 773.

*o*-Propyldimethylaniline and its salts (EMDE), 1912, A., i, 801.

*p*-*iso*Propyldimethylaniline. See *N*-Dimethyleumidine.

*cyclo*Propyldimethylcarbinol and its chloride, bromide, iodide, and acetate (BRUYLANTS), 1909, A., i, 227.

transformations of (KIJNER and KLAWIKORDOFF), 1911, A., i, 635.

4-*iso*Propyldiphenyl-2:3'-dicarboxylic acid (or 3-*isopropyl*diphenyl-2':4'-dicarboxylic acid), and its methyl ester and silver salt (LUX), 1908, A., i, 874.

4-*n*-Propyldiphenylmethane-2'-carboxylic acid (SCHOLL, POTTSCHWAUSCHEG, and LENKO), 1911, A., i, 1008.

4-*iso*Propyldiphenylmethane-2'-carboxylic acid (SCHOLL, POTTSCHWAUSCHEG, LENKO, and BÖCKER), 1911, A., i, 1009.

- iso*Propyldiphenyl-1:1':2'-tricarboxylic acid, 3-hydroxy- (BUCHER), 1910, A., i, 239.
- Propylene**, formation of, from trimethylene (TANATAR), 1903, A., i, 1.
- preparation of (SENDERENS), 1910, A., i, 649.
- derivatives (HENRY), 1903, A., i, 725.
- aromatic (HELL and BAUER), 1903, A., i, 242, 479.
- bromide ( $\alpha\beta$ -dibromopropane), action of, on the disodium derivative of diacetylacetone (BAIN), 1907, T., 544; P., 77.
- Propylene**, diamino-, *N*-dibenzoyl derivative of (INOUE), 1907, A., i, 482.
- aa*-dichloro-, action of sodium on (SMEDLEY), 1906, P., 158.
- aaa*-trichloro- (VITORIA), 1905, A., i, 110; (HENRY), 1905, A., i, 559.
- Propylene chlorohydrins** (HENRY), 1903, A., i, 2, 725.
- Propylene glycol**. See Propane, dihydroxy-.
- Propylene oxide** and the corresponding hydroxychloroacetate (PRILESCHAEFF), 1910, A., i, 86.
- action of hydrogen chloride on (MICHAEL), 1906, A., i, 781.
- action of magnesium ethyl bromide on (HENRY), 1907, A., i, 887.
- Propylene ozonide** (HARRIES and HAEFFNER), 1908, A., i, 846.
- $\alpha\beta$ -Propylene phthalate,  $\gamma$ -chloro- (WEINSCHENK), 1906, A., i, 91.
- Propylenecatechol**, bisethoxymethyl ether of (HOERING and BAUM), 1909, A., i, 572.
- Propylenecatechol**, tribromo-, diacetate, ethers and dibromide of (HOERING), 1907, A., i, 412.
- Propylenediamine** and its *N*-dibromo- and -dichloro-derivatives and their *s*-diacyl compounds (CHATTAWAY), 1905, T., 388; P., 61.
- N*-diacetyl derivative, and its oxalate (HAGA and MAJIMA), 1903, A., i, 291.
- dibenzoyl derivative (WINDAUS and KNOOP), 1905, A., i, 381.
- compounds of, with chromium salts (PFEIFFER, BASCI, GASSMANN, HAIMANN, and TRIESCHMANN), 1906, A., ii, 616.
- and ethylenediamine, compounds of, with chromium and cobalt salts (PFEIFFER, GASSMANN, and PIETSCH), 1908, A., i, 508.
- Propylenediamine**, compounds of, with cobalt salts, stereoisomeric (WERNER and FRÖHLICH), 1907, A., i, 590.
- compounds of, with cobalt salts and thiocyanic acid (WERNER and DAWE), 1907, A., i, 294.
- compounds with palladium (GUTBIER and WOERNLE), 1906, A., i, 805.
- nickel platinoso-chloride and sulphate (TSCHUGAEFF and KARASSEFF), 1907, A., i, 830.
- telluribromide (GUTBIER, FLURY, and EWALD), 1912, A., i, 689.
- d*-Propylenediamine and derivatives of the optically active propylenediamines (TSCHUGAEFF and SOKOLOFF), 1909, A., i, 137.
- l*-Propylenediamine, complex salts of (TSCHUGAEFF and SOKOLOFF), 1907, A., i, 896.
- Propylenediammonium** auri-bromide and -chloride (GUTBIER and OBERMAIER), 1911, A., i, 424.
- iridichloride (GUTBIER and LINDNER), 1909, A., ii, 1026.
- iridi-chloride and -bromide (GUTBIER and RIESS), 1910, A., i, 98.
- osmichloride (GUTBIER and MAISCH), 1911, A., i, 19.
- platinibromide (GUTBIER and BAURIEDEL), 1910, A., i, 13.
- selenibromide (GUTBIER and GRÜNEWALD), 1912, A., i, 242.
- 3:3'-Propylenedibenzospiropyran** (BORSCHKE and GEYER), 1912, A., i, 893.
- Propylenedicarboxylic acids**. See Citraconic acid, Glutaconic acid, Itaconic acid, and Mesaconic acid.
- Propyleneguanidine**. See 4-Methyl-tetrahydroglyoxaline, 2-imino-.
- Propylenemethylal** (CLARKE), 1912, T., 1804.
- Propylenepentacarboxylic acid**. See Dicarboxyglutaconic acid.
- 1-isoPropylene-2-cyclopentanone** (BONSDORFF), 1912, A., i, 34.
- o*-Propylenephenol (HOERING and BAUM), 1909, A., i, 571.
- $\beta$ -Propylenecyclopropane (*dimethyl-methylenetrimethylene*) (ALEXÉEFF), 1905, A., i, 639.
- Propylenetetra-carboxylic acid**. See Dicarboxyglutaconic acid.
- Propylenetricarboxylic acid**. See Aconitic acid and  $\alpha$ -Carboxy- $\Delta\alpha\beta$ -glutaconic acid.
- $\alpha$ -Propyl- $\beta$ -ethylacrylic acid. See  $\beta$ -Ethyl- $\alpha$ -propylacrylic acid.
- cyclo*Propyl-ethyl- and -*isopropyl*-carbinols and their acetates (BRUYLANTS), 1909, A., i, 227.



- cyclo*Propyl ethyl and *isopropyl* ketones (BRUYLANTS), 1909, A., i, 227.
- cyclo*Propylethylpropylcarbinol and its bromide (MICHIELS), 1911, A., i, 63.
- 4'-isoPropylflavone**, 6-hydroxy- (v. KOSTANECKI and KOLKER), 1907, A., i, 952.
- 4'-isoPropylflavonol**, 7-mono- and 7:8-di-hydroxy-, and their diacetates (v. KOSTANECKI and TOBLER), 1907, A., i, 952.
- iso*Propylformal, *s-tetrachloro*-, crystals of (STAPPERS), 1905, A., i, 261; (CESÁRO), 1905, A., i, 570; (HENRY), 1905, A., i, 634; (KAISIN), 1906, A., i, 5.
- hexachloro*- (HENRY), 1905, A., i, 559.
- Propylformals**, *n*- and *iso*-, chloro-derivatives (STAPPERS), 1905, A., i, 261.
- $\beta$ -isoPropyl glucoside** (BOURQUELOT and BRIDEL), 1912, A., i, 946.
- $\alpha$ -isoPropylglutaric acid** (*hexanedicarboxylic acid*) (WALLACH, COLLMANN, and THEDE), 1903, A., i, 568.
- $\beta$ -isoPropylglutaric acid** (NOYES and DOUGHTY), 1905, A., i, 321.
- iso*Propylglutaric acids,  $\alpha$ - and  $\beta$ - (BLANC), 1905, A., i, 682.
- $\beta$ -Propylglycerol  $\alpha\gamma$ -diethyl ether** (SOMMELET), 1907, A., i, 108.
- 4-Propylglyoxaline**,  $\gamma\gamma$ -trichloro- $\beta$ -hydroxy-, and its salts (GERNGROSS), 1909, A., i, 189.
- Propylguaiacol** and its carbonate and benzoyl derivative (PARRAIN), 1907, A., i, 43.
- d*- and *l*-*iso*Propylheptanonolide (BARBIER and GRIGNARD), 1910, A., i, 555.
- 5-Propylhexahydro-2-pyrimidone**, 4:6-diimino- (MERCK), 1906, A., i, 537.
- iso*Propylhexamethylene. See Normen-thane.
- 1-isoPropylcyclohexanol** (AUWERS and ELLINGER), 1912, A., i, 188.
- 1-isoPropylcyclohexan-2-one** (BOUVEAULT and CHEREAU), 1906, A., i, 513.
- and its **1-carboxylic acid**, ethyl ester, and their semicarbazones (KÖRZ and MICHELS), 1907, A., i, 58.
- 1-isoPropylcyclohexan-4-one**,  $\omega$ -hydroxy- (PERKIN), 1904, T., 670; P., 86.
- n*-Propyl- $\Delta^1$ -cyclohexene** and its nitrosochloride, nitropiperidine, and methoxyloxime and semicarbazone (WALLACH, CHURCHILL, and RENTSCHLER), 1908, A., i, 405.
- iso*Propyl- $\Delta^1$ -cyclohexene** and its nitrosochloride and oxime (WALLACH and MALLISON), 1908, A., i, 406.
- 1-isoPropylcyclohexen-2-one** and its semicarbazone (WALLACH and MALLISON), 1908, A., i, 406.
- 1-isoPropyl- $\Delta^1$ - and - $\Delta^2$ -cyclohexen-4-ones** and their semicarbazones (WALLACH and HEYER), 1908, A., i, 425.
- $\alpha$ -isoPropyl-*n*-hexoic acid**, *l*-5-hydroxy-, formation and oxidation of, and its lactone (TUTIN), 1907, T., 272; P., 29.
- iso*Propyl-*n*-hexylcarbinol and rotation and derivatives of (PICKARD and KENYON), 1912, T., 629.
- cyclo*- and *iso*-Propyl*isohexyl*carbinols (MICHIELS), 1912, A., i, 259.
- iso*Propyl *n*-hexyl ketone (PICKARD and KENYON), 1912, T., 629.
- cyclo*Propyl *isohexyl* ketone (MICHIELS), 1912, A., i, 259.
- $\alpha$ -Propylhydracrylic acids**, *n*- and *iso*-, and their salts, ethyl ester, phenylhydrazide, and phenylurethane (BLAISE and LUTTRINGER), 1905, A., i, 505.
- 1-Propylhydrocotarnines**, *n*- and *iso*-, and their additive salts (FREUND and REITZ), 1906, A., i, 601.
- $\alpha$ -Propylhydrohydrastinine** and its salts (FREUND and LEDERER), 1911, A., i, 907.
- iso*Propylhydrohydrastinine and its salts (FREUND and LEDERER), 1911, A., i, 907.
- Propyl  $\alpha$ -hydroxybutyl ketone** (*butyrolin*) and its derivatives (BOUVEAULT and LOCQUIN), 1905, A., i, 560, 572; 1906, A., i, 783.
- iso*Propyl  $\alpha$ -hydroxy*isobutyl* ketone (*isobutyrolin*) and its oxime (BOUVEAULT and LOCQUIN), 1906, A., i, 783.
- Propylidene diacetate** (WEGSCHEIDER and SPÄTH), 1910, A., i, 155.
- Propylideneacetic acid** and its ethyl ester, action of nitrogen peroxide on (EGOROFF), 1904, A., i, 216.
- iso*-Propylideneacetoacetaldehyde and its copper salt (COUTURIER), 1910, A., i, 299.
- Propylidene-acetoacetic and -bisacetoacetic acids**, menthyl esters, rotation of (HANN and LAPWORTH), 1904, T., 51.
- iso*Propylideneacetone. See Mesityl oxide.
- $\beta$ -isoPropylideneanhydroacetonebenzil** and its acetyl derivative (JAPP and KNOX), 1905, T., 673; P., 152.
- iso*Propylidene-*p*-benzoquinone, bromo-derivatives (ZINCKE), 1906, A., i, 737.
- Propylidenebishydrazobenzene** (RASSOW and BAUMANN), 1910, A., i, 79.

- Propylidenebisoxalacetic acid**, ethyl ester, and its phenylhydrazone, semicarbazone, and hydrate, and dianhydride (GAULT), 1907, A., i, 181.
- Propylidenebisurethane**,  $\beta$ -chloro-, and  $\beta$ -chlorobromo- (ODDO and CUSMANO), 1911, A., i, 943.
- iso***Propylidenetetra**bromoquinone, *p*-dibromo- (ZINCKE and GRÜTERS), 1906, A., i, 172.
- Propylidenecamphor** and its nitrosate (HALLER and MINGUIN), 1906, A., i, 595.
- Propylidenediacetamide** (REICH), 1905, A., i, 35.
- Propylidenedimalonic acid**, ethyl ester, and its disodium derivative (KÖTZ), 1907, A., i, 706.
- Propylidenecyclohexane** and its nitrosochloride, nitropiperide, and methoxyl-oxime (WALLACH, CHURCHILL, and RENTSCHLER), 1908, A., i, 405.
- iso***Propylidenecyclohexane** (WALLACH and MALLISON), 1908, A., i, 406.
- 4-isoPropylidenecyclohexanone** and its semicarbazone and  $\beta$ -bromo-, and their **2-carboxylic acids**, ethyl esters, synthesis of (PERKIN and SIMONSEN), 1907, T., 1736; P., 197.
- Propylidenemalonic acid**, ethyl ester (KÖTZ), 1907, A., i, 706.
- Propylidenephosphamic chloride**,  $\alpha\beta$ -trichloro- (STEINKOPF and BENEDEK), 1908, A., i, 963.
- $\gamma$ -*iso***Propylidenepimelic acid** and its ethyl ester and reactions (PERKIN and SIMONSEN), 1907, T., 1743; P., 198.
- n*- and *iso***Propylidenetetramethyl**diaminodiphenylmethane (LEMOULT), 1911, A., i, 399.
- iso***Propylidenetria**zoacetohydrazide (CURTIUS and BOCKMÜHL), 1912, A., i, 426.
- iso***Propylidene- $\gamma$ -triazobutyro**hydrazide (CURTIUS and GIULINI), 1912, A., i, 427.
- iso***Propylidene- $\alpha$ -triazopropion**hydrazide (CURTIUS and FRANZEN), 1912, A., i, 426.
- 2-Propylino-4-methyluracil**, chloro- (MAJIMA), 1908, A., i, 223.
- 3-iso-Propylindolinone** and its methyl ethyl and acetyl, dibromo-, and silver derivatives (SCHWARZ), 1903, A., i, 854.
- Propylmalonamide** (CONRAD and ZART), 1905, A., i, 754.
- Propylmalonic acid**,  $\alpha$ -bromo- $\gamma\delta$ -dihydroxy-, dilactone of, and  $\gamma\delta$ -dihydroxy-, amide, dilactone, and bisphenylhydrazide of (LEUCHS and SPLETTSTÖSSER), 1907, A., i, 177.
- Propylmalonic acid**,  $\gamma\delta$ -dihydroxy- (TRAUBE), 1905, A., i, 13.
- iso***Propylmalonic acid**, ethyl ester, sodium derivative, action of monochloromethyl ether on (SIMONSEN), 1908, T., 1777; P., 212.
- iso***Propylmalonic acid**,  $\alpha$ -bromo-, ethyl ester (KÖTZ), 1907, A., i, 707.
- $\beta$ -hydroxy-,  $\beta$ -lactone of, from acetone and malonic acid, and its salts (MELDRUM), 1908, T., 598; P., 31.
- Propylmalonylbenzidine** (REMFREY), 1911, T., 622.
- Propylmalonylmalonamide** (REMFREY), 1911, T., 619.
- Propylmeconines**, *n*- and *iso*- (MERMOD and SIMONIS), 1906, A., i, 303.
- 2-Propyl- $\Delta^{6:8(9)}$ -menthadien-2-ol** (2-propylcarveol) and its optical constants (KLAGES), 1907, A., i, 598.
- 2-Propylmenthatriene** and its optical constants (KLAGES), 1907, A., i, 598.
- d-1-isoPropyl-3- $\gamma$ -methyl-amyl- and - $\Delta$ -pentenyl-benzenes** (KLAGES and SAUTTER), 1905, A., i, 579.
- cyclo***Propylmethylcarbinol** and its salts (MICHELS), 1912, A., i, 259.
- cyclo***Propylmethylethylcarbinol** and chloride, bromide, and iodide of (BRUYLANTS), 1909, A., i, 228.
- 3-isoPropyl-9-methyl**dicyclononane (RABE and WEILINGER), 1904, A., i, 509.
- iso***Propyl methylvinyl ketone** and its *p*-nitrophenylhydrazone and semicarbazone, and isomeride (BLAISE and HERMAN), 1908, A., i, 319.
- 4'-isoPropyl- $\alpha$ -naphtha-flavonol** and its acetate and -flavanone (v. KOSTANECKI and STENZEL), 1907, A., i, 953.
- n*-**Propylnaphthalenes**,  $\alpha$ - and  $\beta$ -, and their picrates (BARGELLINI and MELACINI), 1908, A., i, 775.
- n*-**Propylnopinol** (WALLACH), 1907, A., i, 1060.
- $\gamma$ -**Propyloctan- $\beta$ -ol** (GUERBET), 1912, A., i, 527.
- $\gamma$ -**Propyloctan- $\beta$ -one** (GUERBET), 1912, A., i, 527.
- iso***Propyl-*n*-octylcarbinol**, and rotation and derivatives of (PICKARD and KENYON), 1912, T., 629.
- iso***Propyl *n*-octyl ketone** (PICKARD and KENYON), 1912, T., 629.
- 9-Propyloxanthranol**,  $\beta$ -bromo-, bromide of, and  $\alpha\beta$ -dibromo- (KONDO), 1911, A., i, 67.
- 3-Propylisooxazoline** (MAIRE), 1908, A., i, 290.

**Propyloxy-** See Propoxy-

$\gamma$ -*iso*Propylpentane,  $\beta$ -iodo- (CLARKE), 1908, A., i, 493.

*iso*Propylcyclopentane, 3-amino- (BOUVEAULT and BLANC), 1908, A., i, 135.

3-bromo- (BOUVEAULT and BLANC), 1909, A., i, 108.

*iso*Propylcyclopentane-3-carboxylamide (BOUVEAULT and BLANC), 1908, A., i, 135.

1-*iso*Propylcyclopentane-1- $\alpha$ -diol (MEERWEIN and UNKEL), 1910, A., i, 857.

$\gamma$ -*iso*Propyl- $\beta$ -pentanol (CLARKE), 1908, A., i, 493.

*iso*Propylcyclopentan-3-ol (BOUVEAULT and BLANC), 1908, A., i, 135.

$\gamma$ -*iso*Propyl- $\beta$ -pentanone (*ethylisopropylacetone*) (CLARKE), 1908, A., i, 493.

*iso*Propylcyclopentan-2-one and its semicarbazone (KÖTZ and SCHÜLER), 1907, A., i, 59.

and its carboxylic acid and their semicarbazones (BOUVEAULT and LOCQUIN), 1908, A., i, 173.

*iso*Propylcyclopentan-3-one (BOUVEAULT and BLANC), 1908, A., i, 135.

and its semicarbazone (WALLACH and CHALLENGER), 1911, A., i, 472.

dibenzylidene derivative (WALLACH and CHALLENGER), 1912, A., i, 263.

1-*iso*Propylcyclopentan-2-one-1-carboxylic acid, methyl ester, and its semicarbazone, and ethyl ester (KÖTZ and SCHÜLER), 1907, A., i, 58.

1-*iso*Propylcyclopentan-2-one-3-carboxylic acid, methyl ester, and its semicarbazone, and ethyl ester (KÖTZ and SCHÜLER), 1907, A., i, 58.

ethyl ester (BOUVEAULT and LOCQUIN), 1908, A., i, 173.

2-Propylperimidine and its salts (SACHS), 1909, A., i, 428.

2-*iso*Propylperimidine and its hydrochloride and nitrate (SACHS and STEINER), 1909, A., i, 970.

Propylphenetoles, *o*-, *m*-, and *p*-, and the sulphonic acids of the *m*- and *p*-compounds (KLAGES), 1904, A., i, 1002.

*o*-Propylphenol,  $\gamma$ -chloro-, and its phenylcarbamate (V. BRAUN and STEINDORFF), 1905, A., i, 294.

*p*-Propylphenol, 2:6-diamino-, and its acetyl derivative, and 2:6-dinitro-, and their salts and derivatives (THOMS and DRAUZBURG), 1911, A., i, 716.

tetrabromo-, and its acetyl derivative (HOERING), 1904, A., i, 578.

*p*-Propylphenol, chlorobromo-derivatives of, and their acetyl compounds (ZINCKE and HAHN), 1904, A., i, 42.

*p*-*iso*Propylphenol, constitution of the bromides of (ZINCKE), 1912, A., i, 443.

$\psi$ -bromides and quinones of (ZINCKE and GRÜTERS), 1906, A., i, 172.

bromo-derivatives and their acetyl compounds (ZINCKE), 1906, A., i, 737.

*p*-*iso*Propylphenylacrylic acid and its salts (BRONSTEIN), 1907, A., i, 848.

$\alpha$ -*p*-*iso*Propylphenyl  $\alpha$ -bromopropyl ketone (KUNCKELL), 1912, A., i, 432.

$\alpha$ -*p*-*iso*Propylphenyl- $\Delta^{\alpha}$ -butylene, and its dibromide and  $\alpha$ -chloro- $\beta$ -bromo- (KUNCKELL), 1912, A., i, 432.

*p*- and *o*-*iso*Propylphenyl methoxymethyl ethers,  $\alpha$ -hydroxy- (HOERING and BAUM), 1909, A., i, 571.

*p*-*iso*Propylphenylmethylecyanamide (SACHS and WEIGERT), 1907, A., i, 1046.

2-*p*-*iso*Propylphenyl-2:3-naphthaglyoxaline and its additive salts, and 1-amino-, and its derivatives and compounds with aldehydes (FRANZEN and SCHEUERMANN), 1908, A., i, 293.

$\beta$ -*p*-*iso*Propylphenylpropionic acid,  $\beta$ -hydroxy-, synthesis of, and its salts (BRONSTEIN), 1907, A., i, 848.

*p*-*iso*Propylphenylpyruvic acid and its sodium salt, and condensation with benzaldehyde (ERLENMEYER and MATTER), 1905, A., i, 238.

*p*-Propylphenyl-*o*-tolylidinium hydroxide and salts (WILLGERODT and SCKERL), 1903, A., i, 747.

*n*-Propylphosphine (PARTHEIL and GRONOVER), 1903, A., i, 801.

Propylphthalamic acid,  $\beta$ -bromo- (BARTHOLODY), 1907, A., i, 1044.

$\gamma$ -bromo- (GABRIEL), 1905, A., i, 649.

*iso*Propylisophthalic acid, synthesis of (BARGELLINI), 1910, A., i, 744.

Propylphthalimide,  $\beta$ -bromo-, transformation of, into the  $\beta$ -hydroxy-compound (BARTHOLODY), 1907, A., i, 1043.

nitrosoamine from (GABRIEL), 1905, A., i, 651.

$\gamma$ -chloro- (GABRIEL), 1905, A., i, 650.

$\gamma$ -nitro- (GABRIEL), 1905, A., i, 441.

Propylphthaliminomalonic acid,  $\gamma$ -cyanoamino- (SÖRENSEN, HÖYRUP, and ANDERSEN), 1912, A., i, 15.

Propylphthaliminomalonic acid,  $\gamma$ -bromo-, ethyl ester (SÖRENSEN), 1905, A., i, 749.



- Propylphthaliminomalonic acid**,  $\gamma$ -cyano-, ethyl ester, and its hydrolysis (SÖRENSEN), 1903, A., i, 834.
- $\gamma$ -cyanoamino-, and its ethyl ester and amide (SÖRENSEN, HÖYRUP, and ANDERSEN), 1912, A., i, 14.
- $\gamma$ -isoPropylmelic acid, bromo-, ethyl and ethyl hydrogen esters (PERKIN and SIMONSEN), 1907, T., 1742; P., 198.
- 1-Propylpiperidine**,  $\gamma$ -chloro-, and the formation of an octacyclic polymeride from (HÖRLEIN and KNEISEL), 1906, A., i, 458.
- and its quaternary salt, and  $\gamma$ -iodo-, and its salts (GABRIEL and COLMAN), 1906, A., i, 881.
- $\gamma$ -hydroxy-, and its additive salts (GABRIEL and COLMAN), 1907, A., i, 237.
- and its compound with benzyl iodide (DUNLOP), 1912, T., 2002; P., 230.
- 2-Propylpiperidine**,  $\beta$ -hydroxy-, and its salts (LÖFFLER and FRIEDRICH), 1909, A., i, 180; (LÖFFLER and TSCHUNKE), 1909, A., i, 325.
- $\gamma$ -hydroxy-, and its hydrochloride and mercurichloride (LÖFFLER and FLÜGEL), 1909, A., i, 831.
- isoPropylcyclopropane*, 1-bromo- (BRUYLANTS), 1909, A., i, 228.
- 2-isoPropylcyclopropanecarboxylic acid** and its ethyl ester, amide, and anilide (BLANC), 1907, A., i, 763.
- Propylpropionic acids**. See Hexinoic acids.
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- Putrine** and its aurichloride (ACKERMANN), 1908, A., i, 10.
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- Pyranic oxygen**, basicity of (FOSSE and LESAGE), 1905, A., i, 541, 917.
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 ♪ **Quinols**, imino- (BAMBERGER), 1903, A., i, 83.  
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- Quinolphtalein** and its dimethyl ether and their potassium salts (V. LIEBIG), 1912, A., i, 380.
- phenolphtalein, and fluorescein, absorption spectra of (MEYER and MARX), 1907, A., i, 932.
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- Quinol-quinonechloro- and -dichloroimide** (KNORR), 1910, A., i, 324.
- Quinol-5-sulphonic acid**, 2-amino-3:6-dihydroxy-, hydrochloride of (NIETZKI and HUMAN), 1905, A., i, 218.
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- Quinolyl-4-acrylic acid** and -4-propionic acid and their salts (KOENIGS and MÜLLER), 1904, A., i, 527.
- Quinolylbenzotriazoles**, 5-nitro- (MEIGEN, GARBS, MERKELBACH, and WICHERN), 1908, A., i, 580.
- $\gamma$ -**Quinolyl benzyl ketone** and its derivatives (RABE and PASTERNAK), 1912, A., i, 718.
- $\gamma$ -**Quinolyl dibenzylcarbinol** (RABE and PASTERNAK), 1912, A., i, 718.
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- Quinolylformazyl** (EIBNER and HOFMANN), 1904, A., i, 930.
- Quinolylmethylamine**, 2-hydroxy-, *N*-benzoyl derivative of (EINHORN, BISCHKOPFF, and SZELINSKI), 1906, A., i, 247.
- 4-Quinolyl methyl ketone** and its derivatives (KAUFMANN, PEYER, and KUNKLER), 1912, A., i, 1017.
- 2-Quinolyl phenyl ketone** (BESTHORN), 1908, A., i, 681.
- 4-Quinolyl phenyl ketone** (REMFREY and DECKER), 1908, A., i, 364.
- and its derivatives (KAUFMANN, PEYER, and KUNKLER), 1912, A., i, 1018.
- 2- and 4-Quinolylpyruvic acids** (2- and 4-methylquinolineoxalic acids) and their ethyl esters, synthesis of (WISLICENUS and KLEISINGER), 1909, A., i, 419.
- Quinolyl isoquinolyl ketone** and its oxime (VONGERICHTEN and KRANTZ), 1910, A., i, 201.
- o*-Quinomethylhemiacetalcatechol ether**, hexachloro-, preparation of (JACKSON and CARLETON), 1908, A., i, 428.
- Quinonaphthalone** (EIBNER), 1904, A., i, 1049.
- Quinonaphthalones**, *s*- and *as*-, and *as*-**Quinonaphthaline** and its bromo-derivative (EIBNER and LÖBERING), 1906, A., i, 606.
- Quinone**,  $C_{16}H_{10}O_4$ , from di-*p*-hydroxystilbene  $\psi$ -dibromide and methyl alcohol (ZINCKE and MÜNCHE), 1905, A., i, 55.
- $C_{16}H_{10}O_5N_2$ , from brucinolone and nitric acid (LEUCHS and WEBER), 1909, A., i, 954.
- $C_{21}H_{16}O_4$  (two isomerides), from oxidation of diethylantraceneindandione and diethylphenanthreneindandione respectively (FREUND and FLEISCHER), 1910, A., i, 491.
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- o*-Quinone.** See *o*-Benzoquinone.
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- Resorcinolanthrone**, dinitro- (SCHARWIN, KUSNETZOFF, NAUMOFF, GANDURIN, BJENKOFF, and DMITRIEFF), 1911, A., i, 656.
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- $\alpha$ -Resorecylic acid (3:5-dihydroxybenzoic acid) (FISCHER, FREUDENBERG, and LEPSIUS), 1911, A., i, 875.
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- $\beta$ -Resorecylic acid, amino-, and its hydrochloride and sulphate (v. HEMMELMAYR), 1904, A., i, 319.
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*r*-Serine, resolution of, into the optically active components (FISCHER and JACOBS), 1906, A., i, 807.

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*Strychnos aculeata*, active principles of the fruit of an African (HÉBERT), 1908, A., ii, 317.

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*Strychnos nux vomica*, oil of the seeds of (SCHROEDER), 1906, A., ii, 132; (HEIDUSCHKA and WALLENREUTER), 1912, A., ii, 1087.

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**Styracitol** and its derivatives (ASAHINA), 1912, A., i, 832.

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- Styrene**,  $\beta$ -nitro-, action of alkalis on (MEISENHEIMER and HEIM), 1905, A., i, 269.  
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- Styrenes** (KLAGES and STAMM), 1904, A., i, 302; (KLAGES), 1904, A., i, 497, 567.  
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- 2'-Styreneazobenzene**, 5'-nitro-4-amino- (SACHS and HILPERT), 1906, A., i, 242.
- Styrodien** (KLAGES), 1904, A., i, 567.
- Styrogallol** and its potassium salt (PERKIN and WILSON), 1903, T., 139.
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- Styrotriene** (KLAGES), 1904, A., i, 567.
- $\alpha$ -**Styrylacetic acid**,  $\alpha$ -cyano-, ethyl ester (HAWORTH), 1909, T., 482.
- 5-Styrylacridine**, *m*- and *p*-amino- and *m*- and *p*-nitro- (PORAI-KOSCHITZ, SOLODOWINKOFF, and TROITZKI), 1907, A., i, 974.  
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- Styrylacrylhydroxamic acid** (POSNER and ROHDE), 1910, A., i, 847.
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- Styryl isoamylthiolbenzylmethyl ketone** (isoamylthiolbenzylbenzylidenecacetic) (RUHEMANN), 1905, T., 21.
- Styrylbenziminazole**, amino- and nitro-derivatives of, and their salts and acetyl compounds (RUPE and PORAI-KOSCHITZ), 1904, A., i, 107.
- Styrylbenziminazole**, 4:6-di- and tetrabromo- (BACZYNSKI and V. NIEMEN-TOWSKI), 1903, A., i, 126.
- 2-Styrylbenzopyrylium salts**, *o*-hydroxy- (DECKER and FELSNER), 1908, A., i, 906.
- Styryl *n*-butyl ketone** and its phenyl hydrazone (AUWERS and VOSS), 1910, A., i, 71.
- Styrylcarbamic acid** and *o*-nitro-, methyl esters of (WEERMAN), 1908, A., i, 22.
- Styrylcarbimide** (cinnamylcarbimide) (FORSTER), 1909, T., 433; P., 69.
- Styryl cinnamylidenemethyl ketone** (benzylidenecinnamylidenecacetic) and its hydrochloride (FRANCESCONI and CUSMANO), 1908, A., i, 802.  
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- Styryl cinnamylidenemethyl ketone**, *o*-hydroxy- (FRANCESCONI and CUSMANO), 1908, A., i, 802.
- 2-Styrylcoumarone**, derivatives of (ABE-LIN and V. KOSTANECKI), 1910, A., i, 631.
- 2-Styryl-4-dihydroquinazolone**, hydrochloride, 2-amino-, acetyl derivative, bromo-, dibromo-, 6-nitro-, 2-*o*- and -*p*-nitro-, and 6-nitro 2-*p*-nitro- (BOGERT and BEAL), 1912, A., i, 394.  
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- Styryldihydroresorcin** (VORLÄNDER and GROEBEL), 1906, A., i, 365.
- Styryldihydrouracil** (POSNER and ROHDE), 1909, A., i, 649.
- Styryl *p*-dimethylaminostyryl ketone**, *p*-amino-, and *p*-nitro- (RUPE and SIEREL), 1906, A., i, 859.
- $\alpha$ -**Styryl- $\delta\delta$ -dimethylfulgenic acid** (STOBBE, BENARY, and SEYDEL), 1911, A., i, 381.
- $\alpha$ -**Styryl- $\delta\delta$ -dimethylfulgide** (STOBBE, BENARY, and SEYDEL), 1911, A., i, 380.
- 2-Styryl-3-ethyl-4-dihydroquinazolone** (BOGERT and BEAL), 1912, A., i, 394.  
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- Styryl ethyl ketone** (MAYER), 1905, A., i, 215.
- Styryl ethyl ketone**, *o*-hydroxy- (DECKER and V. FELLEBERG), 1909, A., i, 116.
- $\beta$ -**Styryl-8-ethylpropiofenone** and its dibromide and oxime (KÖHLER), 1905, A., i, 359.
- $\beta$ -**Styryl-8'-furyldivinyl ketone** (BAUER and DIETERLE), 1911, A., i, 922.
- Styrylglutaric acid**, and its anhydride, methyl ester, and anilide (VORLÄNDER), 1903, A., i, 632; (VORLÄNDER and GROEBEL), 1906, A., i, 365.
- Styrylglyoxylic acid** (cinnamylformic acid), formation and transformation of (ERLENMEYER), 1903, A., i, 698.

- Styrylgyoxylic acids**, stereoisomeric, and their phenylhydrazones (ERLENMEYER), 1905, A., i, 784.
- Styryl heptyl ketone** (MAYER), 1905, A., i, 215.
- Styryl hexyl ketone** (MAYER), 1905, A., i, 215.
- Styryl cyclohexyl ketone** and its dibromide (KÖHLER and BURNLEY), 1910, A., i, 392.
- Styryl- $\psi$ -hydantoin**. See Dicinmamylhydantil.
- Styrylitaconic acid**, anhydride of (FICHTER and WALTER), 1910, A., i, 29.
- $\beta$ -Styryl- $\beta$ -methylacrylic acid** and its dibromide, and  $\alpha$ -cyano- (HAWORTH), 1909, T., 485.
- 2-Styryl-5-methylbenzimidazole** and its derivatives (FICHTER and PREINWERK), 1907, A., i, 84.
- 4-Styryl-6-methyldihydro 2-pyrimidone** and its sodium salt, and hydrochloride, nitrate, and sulphate, and *p*-hydroxy-derivative (STARK), 1909, A., i, 261.
- 2-Styryl-3-methyl-4-dihydroquinazolinone** methiodide (BOGERT and GEIGER), 1912, A., i, 511.
- Styryl methyl diketone** (*benzylidene-diacytyl*) and its hydrazone derivatives (DIELS and ANDERSON), 1911, A., i, 464.
- Styryl methylenedioxy-styryl ketone** (*benzylidene-piperonylideneacetone*) hydrochloride (FRANCESCONI and CUSMANO), 1908, A., i, 803.
- Styryl methyl ketone** (*benzylideneacetone*) and its hydrochlorides (FRANCESCONI and CUSMANO), 1908, A., i, 803.
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- dibromide, action of alcoholic potash on (RUHEMANN and WATSON), 1904, T., 1180; P., 176.
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- $\psi$ -nitrosite and nitro-oxime of (WIELAND), 1904, A., i, 55.
- oxide (PRIELESCHAEFF), 1912, A., i, 635.
- Styryl methyl ketone**, *p*-amino-, and its oxime, hydrazone, acyl, and thiocarbamide derivatives (RUPE and SIEBEL), 1906, A., i, 858.
- bromo-, and its phenylhydrazone (RUHEMANN and WATSON), 1904, T., 464.
- 4-bromo-2-nitro-, and 4-chloro-2-nitro- (LACHS and SICHEL), 1904, A., i, 594.
- Styryl methyl ketone**, *o*-hydroxy-, hydrochlorides (FRANCESCONI and CUSMANO), 1908, A., i, 803.
- p*-hydroxy-, and its acetate (ZINCKE and MÜHLHAUSEN), 1903, A., i, 265.
- Styryl methyl ketone-phenylhydrazone**, *p*-nitro- (AUWERS and VOSS), 1910, i, 71.
- Styryl methyl ketone-semicarbazone** and *o*-hydroxy-, behaviour of, towards aniline (BORSCHKE and MERKWITZ), 1904, A., i, 946.
- oximino- (RUPE and KESSLER), 1910, A., i, 94.
- 2-Styryl-5-methylpyrazine** and *o*-hydroxy- and *p*-nitro- (FRANKE), 1906, A., i, 47.
- 2-Styryl-3-methyl-4-quinazolinone**, and 7-amino- (BOGERT, BELL, and AMEND), 1911, A., i, 162, 163.
- 2-Styryl-4-methylquinoline** and its salts (SPALLINO and CUCCHIARONI), 1912, A., i, 582.
- 2-Styryl-6-methylquinoline** (*6-methyl-2-irazole*) and *p*-hydroxy-*m*-nitro-, and hexahydro-derivatives and their additive salts (GASDA), 1906, A., i, 41.
- 2-Styryl-6-methylquinoline**, *m*- and *p*-amino- and *m*- and *p*-nitro- (PORAI-KOSCHITZ, SOLODOWINKOFF, and TROITZKI), 1907, A., i, 974.
- 2-Styryl-8-methylquinoline**, and *o*-, *m*-, and *p*-nitro-, and their additive salts (HOFFMANN), 1906, A., i, 40.
- Styryl- $\alpha$ - and - $\beta$ -naphthathiazoles** and their amino-, chloro-, hydroxy-, and nitro-derivatives and their acetyl compounds (RUPE and SCHWARZ), 1905, A., i, 83.
- Styryl  $\alpha$ -naphthyl ketone**, *p*-nitro- (SCHOLTZ and MEYER), 1910, A., i, 562.
- $\alpha$ - and  $\gamma$ -Styryl nonyl ketone**, derivatives of (SCHOLTZ and MEYER), 1910, A., i, 562.
- Styryl *n*-nonyl ketone-phenylhydrazone** (AUWERS and VOSS), 1910, A., i, 71.
- Styryl isooxazolinone** (RIEDEL and SCHULZ), 1909, A., i, 583.
- Styryl oximinomethyl ketone** (*benzylideneisonitrosoacetone*), and its oxime, and *m*-nitro-, and its oxime, phenylhydrazone and semicarbazone (HARRIES and MILLS), 1904, A., i, 428.
- Styryl-*m*- and -*p*-oxyacetic acids**,  $\omega$ -nitro-, ethyl esters (REMFREY), 1911, T., 286; P., 21.
- Styrylparaconic acid** and its dibromide (BOUGAULT), 1906, A., i, 670.



- Styryl phenylazomethyl ketone, *p*-nitro-** (PRAGER), 1903, A., i, 540.
- Styryl  $\beta$ -phenylethyl ketone** (*benzyl-benzylidenacetone*) and its oxime and phenylhydrazone (HARRIES and GOLLNITZ), 1904, A., i, 427.
- Styrylpiperidylcarbamide** (FORSTER), 1909, T., 439.
- 1-Styrylcyclopropane-2-carboxylic acid** and its amide, dibromide, and ethyl ester (V. DER HEIDE), 1904, A., i, 583.
- $\beta$ -Styrylpropionic acid,  $\beta$ -amino-**, and its silver salt, hydrochloride, and benzoyl derivative and its methyl ester (POSNER and ROHDE), 1909, A., i, 649.
- $\gamma$ -Styrylpropyl alcohol,  $\alpha\gamma$ -trihydroxyl-amino-** ( *$\beta$ -hydroxylamino  $\beta$ -cinnamonylpropionylhydroxamic acid hydroxide*) (POSNER and ROHDE), 1909, A., i, 649.
- $\alpha$ -oximino- $\gamma$ -hydroxylamino-** ( *$\beta$ -hydroxylamino- $\beta$ -cinnamonylpropionyl-hydroxamic acid*) and its hydroxylamine salt and tetrabenzoyl derivative (RIEDEL and SCHULZ), 1909, A., i, 583.
- Styryl isopropyl ketone** (AUWERS and VOSS), 1910, A., i, 71.  
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- Styrylpyrazolecarboxylic acid**, hydrazide of (RUHEMANN), 1909, T., 117.
- 2-Styrylpyrimidine** (SACHS and STEINER), 1909, A., i, 970.
- 4-Styrylpyrimidine** and its dibromide (GABRIEL and COLMAN), 1904, A., i, 103.
- 2-Styryl-4-quinazolone** and 3-amino-7-acetyl-amino-, 3:7-diacetyl-amino-, and *o*-hydroxy-, and their derivatives (BOGERT, BELL, and AMEND), 1911, A., i, 162.
- 2-Styrylquinoline** (*benzylidenequinoline: 2-irazole*), derivatives of (GASDA), 1906, A., i, 41.  
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- 2-Styrylquinoline**, bromo-, and *o*-nitro- and its salts (LOEW), 1903, A., i, 577.  
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- 4-Styrylquinoline**, bromo-, and *o*- and *p*-nitro- and their salts (LOEW), 1903, A., i, 578.
- Styryl  $\beta$ -styrylvinyl ketone-phenyl-hydrazone** (BAUER and DIETERLE), 1911, A., i, 922.
- Suberane**. See *cyclo*Heptane.
- Suberene** (MARKOWNIKOFF), 1903, A., i, 239.
- Suberic acid**, synthesis of, by means of organo-magnesium compounds (ZELINSKY and GUTT), 1907, A., i, 676.  
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- Suberic acid,  $\alpha\zeta$ -diamino-**, synthesis of, and its salts, hydrochloride, and phenylcarbimide derivatives (NEUBERG and NEIMANN), 1905, A., i, 687.
- Suberol**. See Suberyl alcohol.
- Suberone**. See *cyclo*Heptanone.
- Suberonitrile**. See Hexane, dicyano-.
- Suberyl alcohol** (DEMJANOFF), 1904, A., i, 411.  
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- Suberyl *tert.*-glycol and bromide**, preparation of (MARKOWNIKOFF), 1903, A., i, 239.
- Subhalogen salts**, old and new (WÖHLER and RODEWALD), 1909, A., ii, 141.
- Sublamin** and mercuric chloride, comparative experiments on the properties of (SCORDO), 1907, A., ii, 713.
- Sublimation** by the dynamical method (SCHEFFER), 1910, A., ii, 484.  
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- Sublimation curves** (BOUZAT), 1903, A., ii, 588.
- Submaxillary glands**, gaseous metabolism of (BARCROFT and PEEFE), 1912, A., ii, 782.

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 $\text{C}_2\text{H}_4\text{N}_4$ , from azoimide and methylcarbylamine (OLIVERI-MANDALÀ), 1910, A., i, 343.  
 $\text{C}_2\text{H}_2\text{OS}$ , from acetylene and sulphur dioxide (LOSANITSCH), 1908, A., ii, 33.  
 $\text{C}_2\text{H}_3\text{ON}_7$ , from triazomethylcarbimide and water (FORSTER and MÜLLER), 1910, T., 1064.  
 $\text{C}_2\text{H}_3\text{O}_3\text{N}_3 \cdot \frac{1}{2}\text{H}_2\text{O}$ , from oxidation of glyoxime, and its ammonium salt (ULPIAN and DE DOMINICIS), 1912, A., i, 341.  
 $\text{C}_2\text{H}_4\text{O}_3\text{N}_2$ , from nitroacetimide chloride (STEINKOFF and BOHRMANN), 1908, A., i, 328.  
 $\text{C}_2\text{H}_2\text{O}_3\text{S}_2\text{Na}_2\text{Hg}$ , from hydroxymercuriacetic aldehyde and sodium thiosulphate (SCHOELLER and SCHRAUTH), 1910, A., i, 460.  
 $\text{C}_3\text{H}_2\text{S}_6$ , from carbon disulphide and hydrogen or hydrogen sulphide (LOSANITSCH), 1908, A., ii, 32.  
 $\text{C}_3\text{H}_3\text{O}_3\text{N}_3$ , from  $\alpha$ -methazonic anhydride and water (STEINKOFF, BOHRMANN, GRÜNUPP, KIRCHHOFF, JÜRGENS, and BENEDEK), 1910, A., i, 308.  
 $\text{C}_3\text{H}_3\text{O}_3\text{N}_3$ , from nitromalonaldoxime nitrile (HILL and HALE), 1903, A., i, 402.  
 $\text{C}_3\text{H}_4\text{O}_4\text{N}_2$ , and its isomeride, from the hydrolysis of isonitrosomalonomide (RATZ), 1904, A., i, 299.  
 $\text{C}_3\text{H}_5\text{O}_2\text{N}$ , from ethanolamine and cyanic acid (KNORR and RÖSSLER), 1903, A., i, 465.  
 $\text{C}_3\text{H}_5\text{O}_3\text{N}_3$ , from oximinomalonomide-amidoxime and sodium nitrite (WIELAND and BAUMANN), 1912, A., i, 838.

**Substance**,  $\text{C}_3\text{H}_5\text{NS}_2$ , from ethanolamine and carbon disulphide (KNORR and RÖSSLER), 1903, A., i, 465.  
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 $\text{C}_3\text{H}_6\text{OS}$ , from methyl chlorothiocarbonate and magnesium methyl iodide (DELÉPINE), 1910, A., i, 612.  
 $\text{C}_3\text{H}_5\text{S}_2\text{Br}_6\text{Al}$ , from aluminium bromide, ethyl bromide, bromine, and carbon disulphide (PLOTNIKOFF), 1903, A., i, 137.  
 $\text{C}_1\text{HCl}_5$ , from  $\alpha\alpha\alpha\gamma\delta\delta$ -hexachloro- $\Delta\beta$ -butylene and quinoline (NICODEMUS), 1911, A., i, 346.  
 $\text{C}_4\text{H}_4\text{Br}_2$ , from tetrabromobutane (WILLSTÄTTER and BRUCE), 1907, A., i, 1019.  
 $\text{C}_4\text{H}_5\text{Br}$ , from the action of lead oxide and water on 1:1-dibromocyclobutane (KIJNER), 1907, A., i, 936.  
 $\text{C}_4\text{H}_6\text{O}_3$ , from the action of dilute sulphuric acid on *ap*-dimethylaminoanil of ethyl $\alpha\beta$ -diketobutyrate (SACHS, WOLFF, and KRAFT), 1903, A., i, 793.  
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 $\text{C}_4\text{O}_{11}\text{Ti}_2$ , from hydrogen peroxide, titanium hydroxide, and oxalic acid (MAZZUCHELLI and PANTANELLI), 1909, A., i, 631.  
 $\text{C}_4\text{H}_2\text{O}_2\text{Br}_2$ , and  $\text{C}_5\text{H}_4\text{O}_4\text{Br}_2$ , from the action of bromine on bromoisopyromucic acid (CHAVANNE), 1905, A., i, 77.  
 $\text{C}_4\text{H}_3\text{O}_3\text{N}_3$ , and  $\text{C}_8\text{H}_9\text{O}_2\text{N}_5$ , from isonitrosomethylpyrazolone (BETTI), 1904, A., i, 533.  
 $\text{C}_4\text{H}_5\text{O}_7\text{N}_3 \cdot \frac{3}{4}\text{H}_2\text{O}$ , from the hydrolysis of nitroacetamide (RATZ), 1904, A., i, 858.  
 $\text{C}_4\text{H}_6\text{O}_2\text{N}_2$ , from histidine (FRÄNKEL), 1906, A., i, 547.  
 $\text{C}_4\text{H}_6\text{O}_2\text{N}_4$ , from ethyl bromosuccinate and hydrazine hydrate, and its derivatives (CURTIUS and GÖCKEL), 1911, A., i, 402.

**Substance**,  $C_4H_6O_4N_2$ , from the hydrolysis of the methyl derivative of isonitrosomalonalonamide (RATZ), 1904, A., i, 300.

$C_4H_6O_2S_2$ , from sulphur monochloride and silver acetate (DENHAM), 1909, T., 1238.

$C_4H_8O_2N_6$ , and  $C_4H_{10}O_3N_6$ , from the oxidation of uric acid (DENICKE), 1906, A., i, 939.

$C_4H_8O_3Cl_2$ , from dichloromethyl oxide and trioxymethylene (DESCUDÉ), 1906, A., i, 559.

$C_4H_9O_2N_7$ , from triazomethylcarbimide and ammonia (FORSTER and MÜLLER), 1910, T., 1066.

$C_4H_{13}O_9N_2$ , from ethyl mesoxalate and hydrazine hydrate (CURTISS, KOCH, and BARTELLS), 1909, A., i, 213.

$C_4H_2O_2ClHg_3$ , from mercury chloroacetylde, mercuric chloride and sodium acetate (HOFMANN and KIRMREUTHER), 1910, A., i, 17.

$C_4H_6N_2Br_4Si$ , from acetonitrile and silicon tetrabromide (REYNOLDS), 1909, T., 513.

$C_4O_3S_4K_4Ni$ , from potassium dithioxalate and nickel salts (JONES and TASKER), 1909, P., 160.

$C_4H_{10}N_7S_4ICr$ , formula of (PFEIFFER and TILGNER), 1908, A., i, 614.

$(C_5H_8O)_n$ , from ethylene and carbon monoxide (LOSANITSCH), 1908, A., i, 33.

$C_5H_{10}O_3$ , from isovaleraldehyde and ozone (HARRIES and KOETSCHAU), 1910, A., i, 607.

$C_5O_2S_6$ , from carbon disulphide and carbon monoxide (LOSANITSCH), 1908, A., ii, 32.

$C_5H_2O_7N_4$ , from acidinitroethyl alcohol (DUDEN and PONNDORF), 1905, A., i, 558.

$C_5H_7O_3N$ , from *d*-glutamic acid (ABDERHALDEN and KAUTZSCH), 1910, A., i, 769.

$C_5H_9ON_3$  and  $C_5H_9N_3$ , from porphyrin oxide (PILOTY and VOGEL), 1903, A., i, 524.

$C_5H_9OCl$ , from isoprene and hypochlorous acid (HEUX), 1912, A., i, 599.

$C_5H_{10}ON_4$ , from porphyrin oxide (PILOTY and VOGEL), 1903, A., i, 524.

$C_5H_{10}O_4N_6$ , from triazomethylcarbimide and water (FORSTER and MÜLLER), 1910, T., 1063.

$C_5H_{10}O_5N_4$ , from oxidation of 3- and 7-methyluric acids (GROHMANN), 1911, A., i, 691.

**Substance**,  $C_5H_{12}O_3N_6$ , from oxidation of 3- and 7-methyluric acids (GROHMANN), 1911, A., i, 691.

$C_5H_9O_2NS_2$ , from ammonium dithiocarbamate and ethyl chloroacetate (DELÉPINE), 1903, A., i, 236.

$C_5H_{10}O_2NCl$  (or  $C_5H_{12}O_2NCl$ ), from the oxidation of nitrosopiperidine in acetone solution (VORLÄNDER and WALLIS), 1906, A., i, 765.

$C_5H_{11}O_2NSe$ , from selenious anhydride, piperidine, and benzene (MARINO and SECQUINTANI), 1912, A., i, 127.

$C_5H_{12}O_5N_2S_2$ , from rongalite, ammonium chloride, and formaldehyde (BINZ and ISAAC), 1908, A., i, 940.

$C_6H_2Cl_{12}$ , from action of silent electric discharge on chloroform (LOSANITSCH), 1910, A., i, 1.

$C_6H_8O$  (two), and their oximes, from the condensation of acetaldehyde (ZEISEL and v. BITTÓ), 1908, A., i, 761.

$C_6H_8O$ , from tetrolacetal and potassium hydroxide, and its derivatives (VIGUIER), 1912, A., i, 161.

$C_6H_5O_2$  (?), from the action of potassium hydroxide on  $\alpha$ -cyanosorbic acid (HAERDTL), 1906, A., i, 62.

$(C_6H_8O_2)_n$ , from the absorption of oxygen by the condensation product of acetylene (LOSANITSCH), 1908, A., i, 846.

$C_6H_{10}O$ , from the decomposition of *N*-dimethylbistrimethylenedi-imine dimethochloride (KNORR and ROTH), 1906, A., i, 457.

$C_6H_{11}O_2$ , from magnesium ethyl bromide and ethyl mesoxalate (LEMAIRE), 1909, A., i, 200.

$C_6H_{12}S$ , from  $\alpha$ -di-iodohexane and potassium sulphide (v. BRAUN), 1911, A., i, 75.

$C_6H_7O_2N$ , and its *p*-nitrophenylhydrazones, and  $C_6H_8O_2N_2$ , and its benzoyl and phenylcarbimide derivatives, from hexane- $\beta\gamma$ -trioneoxime (ANGELICO and CALVELLO), 1904, A., i, 447.

$C_6H_7O_2N$ , from  $\beta$ -*p*-methoxyphenylpropionaldehyde (BALBIANO), 1908, A., i, 901.

$C_6H_2O_5N_3$ ,  $H_2O$ , from glycine and alloxan (PILOTY and FISCHER), 1904, A., i, 823.

$C_6H_8ON_3$ , from 1-amino-1:3:4-triazole and diacetyl (BÜLOW and WEBER), 1909, A., i, 614.

$C_6H_9O_2N$ , from the action of nitric acid on  $C_{30}H_{34}$  (JOVITSCHITSCH), 1908, A., i, 118.



- Substance,**  $C_6H_5O_3N_3$ , from chloroacetyl-diglycinimide and ammonia (BERGELL and FEIGL), 1908, A., i, 140.
- $(C_6H_{10}ON)_x$ , from acetone and phenylhydroxylamine (SCHEIBER and WOLF), 1907, A., i, 1028.
- $C_6H_{10}O_4N_2$ , and  $C_6H_{12}O_4N_4$ , from amyl nitrite and ethyl  $\beta$ -aminocrotonate (H. and A. v. EULER), 1904, A., i, 146.
- $C_6H_{10}N_2S$ , from  $\alpha$ -acetylaminothioisobutyramide (HELLSING), 1904, A., i, 563.
- $C_6H_{10}ON_6$ , from 7-hydroxy-5-methyl-1:2:4:9-benzotetrazole and hydrazine (BÜLOW and HAAS), 1910, A., i, 596.
- $C_6H_{10}O_4S_2$ , from sulphur monochloride and silver propionate (DENHAM), 1909, T., 1238.
- $C_6H_{11}O_2N_4$ , from nitrosodiacetone-semicarbazide (RUPE and KESSLER), 1910, A., i, 16.
- $C_6H_{11}O_3Fe$ , from an ethyl-alcoholic solution of ferrous acetate (HOFMANN and BUGGE), 1907, A., i, 888.
- $C_6H_{13}O_3N$ , from the reduction of  $d$ -glucosamic acid (NEUBERG and WOLFF), 1903, A., i, 74.
- $C_6H_{13}O_3N$ , from the action of nitrous acid on lysine (SZYDLOWSKI), 1907, A., i, 18.
- $C_6H_{13}O_6N$ , from chitosoxime and silver nitrite (NEUBERG and NEIMANN), 1903, A., i, 74.
- $C_6H_{16}O_{14}N_6$ , from glyoxylic acid and guanidine (KAESS and GRUSZKIEWICZ), 1903, A., i, 7.
- $C_6H_3O_2NCl_2$ , from  $s$ -dimethylpyrrole and sulphuryl chloride, and its derivatives (COLACICCHI), 1911, A., i, 225.
- $C_6H_5O_5N_2Na_3$ , from tetraketopiperazine and sodium ethoxide (DE MOULPIED and RULE), 1909, T., 551.
- $C_6H_7ON_2Cl_3$ , from 4-methylglyoxaline and chloral (GERNGROSS), 1909, A., i, 189.
- $C_6H_8O_4N_2Cl_2 \cdot 2H_2O$ , from the decomposition of 3:6-dioxyquinonebis-triazene (HENLE), 1907, A., i, 162.
- $C_6H_4O_4N_3NaHg$ , from 4-imino-2:6-diketodihydropyrimidine-3-acetic acid and mercuric oxide (FARBEN-FABRIKEN VORM. F. BAYER & CO.), 1910, A., i, 804.
- $C_7H_8S_2$ , from carbon disulphide and acetylene (LOSANITSCH), 1908, A., ii, 32.
- Substance,**  $C_7H_7O$ , from phenylacetaldehyde (RASSOW and BURMEISTER), 1912, A., i, 32.
- $C_7H_5O_7 \cdot 2H_2O$ , from the condensation of citric acid and formaldehyde in presence of picric acid (ORLOFF), 1907, A., i, 382.
- $C_7H_{10}O_3$ , from magnesium ethyl bromide and ethyl mesoxalate, and its semicarbazone (LEMAITRE), 1909, A., i, 200.
- $C_7H_{13}N_3$ , from the action of ammonia on hexahydrobenzaldehyde (WALLACH and ISAAC), 1906, A., i, 564.
- $C_7H_{14}O_2$ , from the action of sulphuric acid on hydroxymethylethylallylcarbinol (WAGNER, LWOFF, and BENING), 1904, A., i, 643.
- $C_7H_{14}O_3$ , and its oxime and diacetyl derivative, from acetaldehyde and formylisobutyraldol (WEIS), 1905, A., i, 17; (SCHACHNER), 1905, A., i, 171.
- $C_7H_{14}O_3$ , from heptaldehyde, ozone and ethyl chloride (HARRIES and KOETSCHAU), 1910, A., i, 607.
- $C_7H_2O_4Br_4$ , and its aniline and bromine compounds, from pentabromotolu- $\psi$ -quinol (ZINCKE and BÖTTCHER), 1906, A., i, 167.
- $C_7H_2O_4Br_3$ , from methronic acid and bromine (TREFILIEFF and MANGUBI), 1909, A., i, 821.
- $C_7H_2O_4Br_4$ , from methronic acid and bromine (TREFILIEFF and MANGUBI), 1909, A., i, 821.
- $C_7H_2OS_2$ , from the diazotisation of  $o$ -aminophenol (FRIEDLÄNDER and MAUTHNER), 1905, A., i, 103.
- $C_7H_5O_2N$ , from the action of light on  $o$ -nitrobenzyl alcohol (SACHS and HILPERT), 1904, A., i, 876.
- $C_7H_6OS_3$ , from  $\alpha$ -thienyl methyl ketone, carbon disulphide and potassium hydroxide, and its derivatives (KELBER and SCHWARZ), 1911, A., i, 740.
- $C_7H_6O_2N$ , from chloroamino- $p$ -tolu-quinol (ZINCKE, SCHNEIDER, and EMMERICH), 1903, A., i, 760.
- $C_7H_6O_4N_2$ , from condensation of nitromethane and 5-nitrosalicylaldehyde (REMFRY), 1911, T., 287.
- $C_7H_6O_4Cl_2$ , and  $C_7H_7O_4Cl_3$ , from  $\beta$ -amino- $o$ -cinol (HENRICH, MEYER, and DORSCHKY), 1904, A., i, 494.
- $C_7H_6O_5N_4$ , from 4-methyl-1-ethyluracil and sulphuric and nitric acids (BÜCKENDORFF), 1912, A., i, 54.

**Substance,**  $C_7H_6O_6N_3$ , from the nitration of diacetyl-*p*-aminophenol (REVERDIN and BUCKY), 1906, A., i, 749.

$C_7H_7O_2N$ , from *o*-nitrotoluene (KALLE & Co.), 1908, A., i, 980.

$C_7H_7O_2Cl$ , from  $\alpha\gamma$ -dimethylglutaconic acid and phosphorus pentachloride (FEIST and REUTER), 1910, A., i, 10.

$C_7H_7O_3Br$ , from dibromo-2:6-dimethyl-4-pyrone (FEIST and BAUM), 1905, A., i, 915.

$C_7H_7O_4N$ , from benzaldehyde and nitric acid (SHUKOFF and KASATKIN), 1909, A., i, 398.

$(C_7H_7NS_2)_x$ , from the oxidation of 2-amino-4:5-dithioltoluene (FICHTER, FRÖHLICH, and JALON), 1907, A., i, 1031.

$C_7H_8O_4N_4$ , from hydantoin and formaldehyde (BEHREND and NIEMEYER), 1909, A., i, 258.

$C_7H_9O_4N$ , from the action of hydroxylamine on ethyl mono- and di-acetylmalonates (PALAZZO and SALVO : PALAZZO and CARAPELLE), 1905, A., i, 858.

$C_7H_9O_4N$ , and its silver salt, and ethyl ester, from hydroxylamine and ethyl dimethylpyrnedicarboxylate (PALAZZO), 1904, A., i, 762.

$C_7H_{10}O_3N_2$ , from hydrazine hydrate and ethyl dimethylpyrnedicarboxylate (PALAZZO and LIVERANI), 1911, A., i, 921.

$C_7H_{11}O_2N$ , from the action of nitric acid on  $C_{30}H_{54}$  (JOVITSCHITSCH), 1908, A., i, 118.

$C_7H_{12}ON_2$ , and its semicarbazone, from acetylacetone and potassium cyanide (ZELINSKY and SCHLESINGER), 1907, A., i, 721.

$C_7H_{12}O_4N_3$ , from the oxidation of 1:2-dimethyl- $\Delta^1$ -cyclopentene (KIJNER), 1908, A., i, 865.

$C_7H_{13}O_2N$ , from ethanolamine and acetylacetone (KNORR and RÖSSLER), 1903, A., i, 465.

$C_7H_{13}O_2N$ , from ethyl acetoacetate and methylcarbamide (KIESSLING), 1906, A., i, 946.

$C_7H_{13}O_3N$ , from ethylamine and an amide from ethyl  $\alpha$ -cyanoglutaconate (GUTHZEIT and EYSEN), 1909, A., i, 674.

$C_7H_{13}O_4N$ , from  $\alpha$ -aminoglutaric acid, aurichloride of (ENGELAND), 1910, A., i, 843.

$C_7H_{15}O_2N$ , from ethyl iodomethylpiperidiniumacetate (V. BRAUN), 1908, A., i, 603.

**Substance,**  $C_7H_{17}O_2N_3$ , from dimethylaminomethyl alcohol and nitromethane (HENRY), 1905, A., i, 609.

$C_7H_7O_6N_2Br_1$ , from the action of sodium carbonate on tetrabromo-*o*-methylquinnitrole nitrate (ZINCKE and KLOSTERMANN), 1907, A., i, 323.

$C_7H_5O_{21}N_9Cu_4$ , from copper nitrate and benzonitrile (GUNTZ and MARTIN), 1910, A., ii, 498.

$C_7H_{11}ONS_2$ , from the distillation of  $C_9H_{17}O_2NS_2$  (V. BRAUN), 1903, A., i, 15.

$C_7H_4O_5SNa_2Hg$ , from hydroxymercurybenzoic anhydride and sodium sulphite (SCHOELLER and SCHRÄUTH), 1910, A., i, 460.

$C_8H_6O_3 \cdot 3H_2O$ , from pannarol (HESSE), 1903, A., i, 705.

$C_8H_{12}O_2$ , from condensation of crotonaldehyde (SMEDLEY), 1911, T., 1631.

$C_8H_{12}O_2$ , from action of sulphuric acid on paracetaldehyde, and its semicarbazone and oxime (DELÉPINE), 1909, A., i, 85.

$C_8H_{11}O$ , and its oxime, from the action of sulphuric acid on butane- $\alpha$ -diol (BAUER), 1904, A., i, 279.

$C_8H_{14}O$ , from  $\gamma$ -coniceine and nitrous acid (V. BRAUN and STEINDORFF), 1905, A., i, 813.

$C_8H_{14}O_2$ , from condensation of crotonaldehyde (SMEDLEY), 1911, T., 1632.

$C_8H_{14}O_3$ , from the methylation of dihydroxydimethyleneacetone (WILLSTÄTTER and LUMMERER), 1905, A., i, 457.

$C_8H_{14}S_2$ , from acetylene and hydrogen sulphide (LOSANITSCH), 1903, A., ii, 33.

$C_8H_{16}O_2$ , from the action of sulphuric acid on dihydroxymethylpropylallylcarbinol (WAGNER, LWOFF, and BENING), 1904, A., i, 643.

$C_8H_{16}O_3$ , from octaldehyde and ozone (HARRIES and KOETSCHAU), 1910, A., i, 607.

$C_8H_{17}N$ , from reduction of *n*-chlorooctylamine, and its salts (GABRIEL), 1910, A., i, 229.

$C_8H_4O_2N_2$ , from the action of nitrous fumes on cinnamaldehyde (WIELAND), 1903, A., i, 763.

$C_8H_6ON_2$  (two), from 3-hydroxy-1:2-dihydroquinoxaline (MOTYLEWSKI), 1908, A., i, 370.

- Substance**,  $C_8H_6O_2N_2$ , from benzoyl-chlorocarbamide and alkali (DIELS and WAGNER), 1912, A., i, 512; (DIELS and OKADA), 1912, A., i, 918.
- $C_8H_7O_2N$ , from *p*-aminobenzoic acid and formaldehyde (H. and A. v. EULER), 1905, A., ii, 343.
- $C_8H_7O_4N_3$ , from the ethyl ester of the acid,  $C_4H_4O_3N_2$  (FRERICHS and HARTWIG), 1906, A., i, 164.
- $C_8H_7O_5N$ , from 6-nitroresorcinol and formaldehyde (BORSCHÉ and BERKHOUT), 1904, A., i, 416.
- $C_8H_8O_2N_2$ , from ethyl oxalylbishydrazoneacetate (BÜLOW and LOBECK), 1907, A., i, 301.
- $C_8H_8O_3N_2$ , and its potassium derivative, from the action of ethyl hydroxyethylacetate and ammonia on ethyl cyanoacetate (GUARESCHI), 1905, A., i, 823.
- $C_8H_9ON$ , from formaldehyde and formanilide (ORLOFF), 1905, A., i, 189.
- $C_8H_9O_2N_3$ , from aniline and nitroacetonitrile (STEINKOPF, BOHRMANN, GRÜNUPP, KIRCHHOFF, JÜRGENS, and BENEDEK), 1910, A., i, 307.
- $C_8H_9O_2N_3$ , from *N*-hydroxydioxindole and hydrazine sulphate (HELER and SÖLLING), 1909, A., i, 184.
- $C_8H_{10}O_2N_2$ , from the action of nitrous acid on aminodimethyldihydroresorcin (HAAS), 1907, T., 1444; P., 192.
- $C_8H_{10}O_2N_2$ , from phenyltriazomethylcarbamide and sodium carbonate (FORSTER and MÜLLER), 1910, T., 1065.
- $C_8H_{10}O_3N_4$ , from 4:5-diamino-2:6-diketo-1:3-dimethylpyrimidine (FARBENFABRIKEN VORM. F. BAYER & Co.), 1910, A., i, 79.
- $C_8H_{10}O_5N_4$ , from hydantoin and formaldehyde (BEHREND and NIEMEYER), 1909, A., i, 258.
- $C_8H_{11}ON$ , from ethyl 1-methylcyclohexan-3-one-4-carboxylate and aminocyclohexane (KÖTZ and MERKEL), 1909, A., i, 157.
- $C_8H_{11}ON_3$ , and its platinumchloride, from the reduction of 4-oximino-3-imino-1:1-dimethyl-5-cyclohexanone and of the oxime of isonitrosodimethyldihydroresorcin (HAAS), 1907, T., 1447, 1448.
- $C_8H_{14}ON_2$ , from ethylamine and an amide derived from ethyl  $\alpha$ -cyanoglutaconate (GUTHZEIT and EYSEN), 1909, A., i, 674.
- Substance**,  $C_8H_{14}O_2N_2$ , from acetone-cyanohydrin and hydrogen chloride (ULTRÉE), 1910, A., i, 15.
- $C_8H_{15}O_3N$ , from ethanolamine and ethyl acetate (KNORR and RÖSSLER), 1903, A., i, 465.
- $C_8H_{15}NS_2$ , from isoamylamine, ethylene dibromide, and carbon disulphide (v. BRAUN), 1903, A., i, 15.
- $C_8H_{18}O_2N_6$ , from mesityl oxide and semicarbazine (RUPE and SCHLOCHOFF), 1904, A., i, 144.
- $C_8H_5ONS$ , from indoxyl and sodium tetrasulphide (GESELLSCHAFT FÜR CHEMISCHE INDUSTRIE IN BASEL), 1909, A., i, 735.
- $C_8H_5ON_4K$ , from *p*-triazobenzaldehyde and potassium cyanide (FORSTER and JUDN), 1910, T., 260.
- $C_8H_5O_6N_2Br$ , from the action of nitric acid, in acetic acid solution, on tetrabromodi-*p*-hydroxydi- $\alpha$ -phenylethane (ZINCKE and HENKE), 1909, A., i, 24.
- $C_8H_{12}O_4NBr$ , from the action of potassium hydroxide on  $C_8H_{13}O_4NBr_2$  (DEMJANOFF), 1903, A., i, 394.
- $C_8H_{13}O_4NBr_2$ , from the action of hydrogen bromide on nitroisobutyl glycol (DEMJANOFF), 1903, A., i, 394.
- $C_8H_6O_3N_2Cl_3Br$ , from chloral and *p*-bromo-*o*-nitroaniline (WHEELER and JORDAN), 1909, A., i, 673.
- $C_8H_{10}O_2Cl_6I_2S_2$ , from 1:4-dimethylthiolbenzene tetraiodide and chlorine (ZINCKE and FROHNEBERG), 1909, A., i, 644.
- $C_8H_{10}O_2Cl_2S_2Hg$ , from phenylene 1:4-dimethyldisulphoxide and mercuric chloride (ZINCKE and FROHNEBERG), 1909, A., i, 643.
- $C_8H_{10}O_2Br_2S_2Hg$ , from 1:4-dimethylthiolbenzene tetrabromide and mercuric chloride (ZINCKE and FROHNEBERG), 1909, A., i, 643.
- $(C_8H_5N_2)_x$ , from the decomposition of the silver salt of phenylmalononitrile (HESSLER), 1908, A., i, 182.
- $C_9H_6O_3$  (two), from isopyromucic acid (CHAVANNE), 1905, A., i, 77.
- $(C_9H_5O_2)_x$ , from benzaldehyde and ethyl tetrolate (FRIST), 1906, A., i, 332.
- $C_9H_8O_3$ , from acetylene and carbon monoxide (LOSANITSCH), 1908, A., ii, 33.
- $C_9H_8S$ , from acetophenone, formaldehyde and alkali sulphides (COMPAGNIE MORANA), 1906, A., i, 24.



**Substance,**  $C_9H_8S_{10}$ , from carbon disulphide and ethylene (LOSANITSCH), 1908, A., ii, 32.

$C_9H_{10}O$ , from methylephedrine and methyl- $\psi$ -ephedrine methyl hydroxides (SCHMIDT and EMDE), 1906, A., i, 978.

$C_9H_{10}O_2$ , from the action of ethylene dibromide on the disodium derivative of diacetylacetone (BAIN), 1907, T., 548; P., 77.

$C_9H_{10}O_3$ , from nonaldehyde and ozone (HARRIES and KOETSCHAU), 1910, A., i, 607.

$C_9H_{11}O_2$ , from quinol and acetone (SCHMIDLIN and LANG), 1910, A., i, 837.

$C_9H_{12}O_2$ , from the action of ethyl iodide on the disodium derivative of diacetylacetone (BAIN), 1906, T., 1228; P., 196.

$C_9H_{12}O_2$ , and its methyl ether, from the condensation of ethyl acetate and formaldehyde in sodium hydroxide (ORLOFF), 1907, A., i, 380.

$C_9H_{12}O_3$ , from catechol and acetone (SCHMIDLIN and LANG), 1910, A., i, 837.

$C_9H_{12}O_5$ , from ethyl sodiomalonate and acetyl chloride in ether (BENARY), 1907, A., i, 381.

$C_9H_{12}O_7$ , from the interaction of ethyl malonate, sodium ethoxide and iodine (KOMNENOS), 1910, A., i, 542.

$C_9H_{14}O$ , from oxidation of terecamphene (ASCHAN), 1912, A., i, 367.

$C_9H_{14}O_2$ , from the reduction of acetaldehyde (VAN ROMBURGH and VAN DORSEN), 1906, A., i, 141.

$C_9H_{15}O$ , polymeride of, from the action of the silent electric discharge on moist methane (LÖB), 1908, A., i, 117.

$C_9H_{16}O_2$ , from oxidation of camphene (HENDERSON and SUTHERLAND), 1911, T., 1548; P., 212.

$C_9H_{16}O_3$ , from oxidation of 1:3-dimethyl-5-methylene- $\Delta^2$ -cyclohexene (AUWERS and PETERS), 1910, A., i, 826.

$C_9H_{18}O$ , from the acid,  $C_{10}H_{18}O_3$  (SEMMLER and MCKENZIE), 1906, A., i, 374.

$C_9H_{18}O_2$ , from di-isobutyryl and magnesium methyl iodide (BOUVEAULT and LOCQUIN), 1906, A., i, 803.

$C_9H_{18}O_2$ , from the action of sulphuric acid on dihydroxymethyl-*n*-butylallylcarbinol (WÄGNER, LWOFF, and BENING), 1904, A., i, 643.

**Substance,**  $(C_9H_5ON)_2$ , from methyl  $\omega$ -bromoacetophenone-*o*-carboxylate (GABRIEL), 1907, A., i, 1042.

$C_9H_5O_2N_2$ , from isatin and hydrogen cyanide (HELLER and NÖTZEL), 1908, A., i, 267.

$C_9H_6O_3Cl_2$ , from  $\beta$ -chloro- $\alpha$ -hydroxy-3:4-methylenedioxyphenylethane and phosphorus pentachloride (BÜTTCHER), 1909, A., i, 153.

$C_9H_7O_2N$ , from the oxidation of  $\beta$ -phenylalanine (POSNER), 1904, A., i, 160.

$C_9H_8ON_2$ , from dicyanodiamide and benzoic anhydride (POHL), 1908, A., i, 576.

$C_9H_8ON_2$ , from 5-hydroxy-1-phenyl-4-methyl-5-triazole (DIMROTH and LETSCHE), 1905, A., i, 100.

$C_9H_8OS_2$ , from acetophenone and carbon disulphide, and its derivatives (KELBER), 1910, A., i, 391; (KELBER and SCHWARZ), 1911, A., i, 741.

$C_9H_8O_3N_2$ , from 1-chloro-2:4-dinitrobenzene and sodioacetone (REITZENSTEIN and STAMM), 1910, A., ii, 358.

$C_9H_9O_2N_3$ , from cinnamoylhydrazide hydrochloride, and sodium nitrite (MÜCKERMANN), 1911, A., i, 682.

$C_9H_{11}O_2N$ , from coal-tar (SCHULTZ and SZÉKELY), 1910, A., i, 725.

$C_9H_{11}O_2N_3$ , from *o*-toluidine and nitroacetoneitrile (STEINKOPF, BOHRMANN, GRÜNPP, KIRCHHOFF, JÜRGENS, and BENEDEK), 1910, A., i, 307.

$C_9H_{11}O_4N$ , and its salts and diacetate, from the action of nitrous acid on *o*-hydroxymesityl alcohol (FRIES and KANN), 1907, A., i, 614.

$C_9H_{12}OCl_2$ , and its isomeride, from magnesium methyl iodide and 1-keto-2-methyl-2-dichloro-methyl-1:2-dihydrobenzene (AUWERS), 1906, A., i, 947.

$C_9H_{12}O_2N_2$ , from ethyl 1-methylcyclohexan-3-one-4-carboxylate and carbamide (KÖTZ and MERKEL), 1909, A., i, 158.

$C_9H_{13}O_6N$ , from potassium cyanide and  $\omega$ -bromoacetophenone-*o*-carboxylic acid (GABRIEL), 1907, A., i, 1042.

$C_9H_{14}ON$ , from 4-acetyl-1-methylcyclohexan-3-one and ammonia (LESER), 1912, A., i, 778.

$C_9H_{15}OCl$ , from sabina ketone and hydrogen chloride (WALLACH and HEYER), 1908, A., i, 425.

Substance,  $C_9H_{15}O_2N_3$ , from extract of mushroom, and its aurichloride (KUTSCHER), 1911, A., ii, 528.

$C_9H_{17}O_2N$ , from aminoethyl ether and acetylacetone (KNORR and MEYER), 1905, A., i, 748.

$C_9H_{17}O_4N$ , from  $\alpha$ -aminoglutaric acid, aurichloride of (ENGELAND), 1910, A., i, 843.

$C_9H_{19}O_6P$ , from  $\alpha$ -hydroxy- $\beta\beta$ -dimethylbutyric acid and phosphorus pentachloride (RICHARD), 1911, A., i, 8.

$C_9H_{23}O_{10}N_9$ , from glyoxylic acid and guanidine (KAESS and GRUSZKIEWICZ), 1903, A., i, 7.

$C_9H_9O_3N_2Cl_3$ , from chloral and *o*-nitro-*p*-toluidine (WHEELER and JORDAN), 1909, A., i, 673.

$C_9H_{11}O_5N_2Na_3$ , from tetraketopiperazine and sodium amyloxide (DE MOULPIED and RULE), 1909, T., 550.

$C_9H_{17}O_2NS_2$ , from ethylamine, ethyl  $\alpha$ -bromoisobutyrate, and carbon disulphide (v. BRAUN), 1903, A., i, 15.

$C_{10}H_6O_3$ , from indandione and ethyl orthoformate (ERRERA), 1903, A., i, 266.

$C_{10}H_8O_4$ , and its reactions, from the condensation of triacetic lactone with ethyl acetoacetate (FLEISCHMANN), 1907, T., 251; P., 16.

$C_{10}H_8N_4$ , from piperidine hydrochloride and sodium nitrohydroxylamine (ANGELI and CASTELLANA), 1905, A., i, 491.

$C_{10}H_{10}O_3$ , and its oxime and semicarbazone, from the glycol from isosafrole (BALBIANO, PAOLINI, and LUZZI), 1904, A., i, 73.

$C_{10}H_{10}O_4$ , from 3:4-dihydroxycinnamic acid and methyl alcohol (POSNER), 1911, A., i, 53.

$C_{10}H_{10}O_5$ , and its phenylhydrazone and semicarbazone, from  $\beta\gamma\delta$ -triketopentane and piperidine (SACHS and WOLFF), 1903, A., i, 793.

$C_{10}H_{12}O_2$ , from porinic acid (HESSE), 1903, A., i, 706.

$C_{10}H_{12}O_2$ , from the action of propylene dibromide on the disodium derivative of diacetylacetone (BAIN), 1907, T., 550.

$C_{10}H_{12}O_2$ , from the Pacific arbor vitae (BLASDALE), 1907, A., i, 631.

$C_{10}H_{12}O_4$ , from cyclohexyl iodide and ethyl sodioacetoacetate, and its dibromo-derivative (HELL and SCHAAL), 1909, A., i, 593.

Substance,  $(C_{10}H_{13}O)$ , from the reduction of 4:7-dimethylcoumarin (FRIES and FICKEWIRTH), 1908, A., i, 824.

$C_{10}H_{11}O$ , from  $\beta$ -terpineol (WALLACH and SCHMITZ), 1906, A., i, 372.

$C_{10}H_{14}O_2$ , from the condensation of acetaldehyde (ZEISEL and v. BITTÓ), 1908, A., i, 761.

$C_{10}H_{14}O_2$ , from  $\pi$ -noreamphor (SEMMER and BARTELT), 1907, A., i, 1062.

$C_{10}H_{14}O_2$ , from the action of propyl iodide on the disodium derivative of diacetylacetone (BAIN), 1906, T., 1234; P., 196.

$C_{10}H_{14}O_3$ , and its diacetyl derivative, from the reduction of formylisobutaldol (BÖHM), 1907, A., i, 16.

$C_{10}H_{14}O_5$ , from acetylacetone and  $\beta\gamma\delta$ -triketopentane (SACHS and WOLFF), 1903, A., i, 792.

$C_{10}H_{14}S_4$ , from acetylene and hydrogen sulphide (LOSANITSCH), 1908, A., ii, 33.

$C_{10}H_{15}Cl$ , from the action of hypochlorous acid on camphene (SLAWIŃSKI), 1906, A., i, 29.

$C_{10}H_{16}O$ , from the hydrolysis of camphene chlorohydrin (SLAWIŃSKI), 1906, A., i, 29.

$C_{10}H_{16}O$ , from the Californian laurel (TUTIN), 1908, T., 257; P., 24.

$C_{10}H_{16}O$ , from cotton-seed oil (MATTHES and HEINTZ), 1909, A., i, 573.

$C_{10}H_{16}O$ , from polymeride of crotonaldehyde (DELEPINE), 1910, A., i, 219.

$C_{10}H_{16}O$ , from the seeds of *Monodora grandiflora* (LEIMBACH), 1910, A., i, 186.

$C_{10}H_{16}O$ , from *d*-pinene (DENARO and SCARLATA), 1903, A., i, 844.

$C_{10}H_{16}O_2$ , from the oxidation of camphene (WAGNER, MOYCHO, and ZIENKOWSKI), 1904, A., i, 438.

$C_{10}H_{16}O_2$ , from ethylene and carbon monoxide (LOSANITSCH), 1908, A., ii, 33.

$C_{10}H_{16}O_2$ , from action of sulphuric acid on oxidation product of carophyllene (DEUSSEN), 1909, A., i, 172.

$C_{10}H_{18}O_2$ , from oxidation of carophyllene (DEUSSEN), 1909, A., i, 171.

$C_{10}H_{18}O_3$ , from the hydrolysis of the potassium salt of santanol (HILDEBRANDT), 1903, A., ii, 166.

**Substance,**  $C_{10}H_{18}O_4$ , from isobutaldehyde and glyoxal (ROSINGER), 1907, A., i, 824.

$C_{10}H_{18}Cl_2$ , from isothujene (KONDAKOFF and SKWORZOFF), 1910, A., i, 755.

$C_{10}H_{20}O$ , from methylisopropylpinacone (BEAUME), 1903, A., i, 727.

$C_{10}H_{20}O$ , from the action of dilute sulphuric acid on propionepinacone (KOHN), 1905, A., i, 167.

$C_{10}H_{20}O_3$ , from isobutaldehyde and glyoxal (ROSINGER), 1907, A., i, 824.

$C_{10}H_{20}O_3$ , from the reduction of formylisobutaldol (BÖHM), 1907, A., i, 16.

$C_{10}H_{22}O_3$ , from the reduction of the substance,  $C_{10}H_{20}O_3$  (ROSINGER), 1907, A., i, 825.

$C_{10}H_4O_3Cl_4$ , from the action of thionyl chloride on isosafrole dibromide (BARGER and EWINS), 1908, T., 2090.

$C_{10}H_6N_2Se$ , from 1:8-naphthylenediamine and selenious acid (SACHS), 1909, A., i, 432.

$C_{10}H_7O_5N$ , from *o*-methylcarbonatobenzoyl chloride and glycine (FISCHER), 1909, A., i, 162.

$C_{10}H_3O_3N_1$ , from  $\alpha$ -methazonic anhydride (STEINKOPF, BOHRMANN, GRÜNUPP, KIRCHHOFF, JÜRGENS, and BENEDEK), 1910, A., i, 308.

$C_{10}H_2O_2I$ , from the action of Wys's solution on  $\beta$ -naphthol (WAKE and INGLE), 1908, A., i, 416.

$C_{10}H_{10}OS_2$ , from *p*-tolyl methyl ketone, carbon disulphide and potassium hydroxide, and its derivatives (KELBER and SCHWARZ), 1911, A., i, 740.

$C_{10}H_{10}O_3S$ , from benzophenoneoxime and phosphorus pentasulphide (CIUSA), 1904, A., i, 425.

$C_{10}H_{10}O_4N_2$ , from oxamethane and 3:4-methylenedioxylbenzylamine (MANNICH and KUPHAL), 1912, A., i, 851.

$C_{10}H_{11}ON$ , from anilinoisobutyric acid (BUCHERER and GROLEE), 1906, A., i, 349.

$C_{10}H_{11}O_3N_3$ , from methyl 1-phenyl-5-triazolone-4-carboxylate and alcoholic hydrogen sulphide (DIMROTH, AICKELIN, BRAHN, FESTER, and MERCKLE), 1910, A., i, 519.

$C_{10}H_{11}O_4N$ , from the action of hydrochloric acid on ethyl ammonium 6-hydroxy-2-methylpyridine-3:5-dicarboxylate (SIMONSEN), 1908, T., 1029.

**Substance,**  $C_{10}H_{12}ON_2$ , from *p*-aminophenol and acetonecyanohydrin (BUCHERER and GROLEE), 1906, A., i, 349.

$C_{10}H_{12}O_2N_2$ , from 4-keto-2-benzyl-4:5-dihydroglyoxaline and water (FINGER and ZEH), 1910, A., i, 591.

$C_{10}H_{12}O_2N_2$ , from oxamethane and benzylmethylamine (MANNICH and KUPHAL), 1912, A., i, 851.

$C_{10}H_{13}OBr$ , from the acid,  $C_{10}H_{15}O_2Br$ , from pinene (ENDERSON and HEILBRON), 1908, T., 291; P., 31.

$C_{10}H_{13}O_2N_3$ , from *m*-xylydine and nitroacetoneitrile (STEINKOPF, BOHRMANN, GRÜNUPP, KIRCHHOFF, JÜRGENS, and BENEDEK), 1910, A., i, 307.

$C_{10}H_{14}OCl_2$ , and its isomeride, from the action of magnesium ethyl iodide on 1-methyl-1-dichloromethyl- $\Delta^3$ -cyclohexadien-2-one (AUWERS), 1906, A., i, 947.

$C_{10}H_{14}O_2N_2$ , from condensation of methyl ethyl ketonecyanohydrin and sodiocyanoacetic ester (INGLIS), 1911, T., 544; P., 46.

$C_{10}H_{14}O_4N_2$ , and  $C_{10}H_{14}O_5N_2$ , from the nitrosate of 1-nitrocamphe (FORSTER and MICKLETHWAIT), 1904, T., 327; P., 19.

$C_{10}H_{14}O_6N_2$ , from the condensation of ethyl sodio-*N*-carbethoxyglycine (LEUCHS and GESERICK), 1909, A., i, 107.

$C_{10}H_{15}OCl$ , from pinene (ENDERSON and HEILBRON), 1908, T., 294; P., 31.

$C_{10}H_{15}OBr_5$ , from triallylcarbinol hexabromide (REFORMATSKY), 1909, A., i, 3.

$C_{10}H_{15}O_2N$ , from bornylene and nitrous acid (ENDERSON and HEILBRON), 1911, T., 1898; P., 249.

$C_{10}H_{15}O_2N_3$ , from silver pernitroso-camphor (ANGELI and MARCHETTI), 1908, A., ii, 842.

$C_{10}H_{15}O_5N$ , from chitamic acid, acetic anhydride, and sodium acetate (NEUBERG and WOLFF), 1903, A., i, 74.

$C_{10}H_{15}O_6N_3$ , from terpinene nitrosite and nitric acid (AMENOMIYA), 1905, A., i, 603.

$C_{10}H_{15}O_6N_7$ , from glycoluril and formaldehyde, and its additive compounds with inorganic salts (BEHREND, MEYER, and RUSCHE), 1905, A., i, 419.



- Substance,  $C_{10}H_{16}O_4N_2$ , from acetyl chloride and  $\alpha$ -bromoisohexoyl-/asparagine (FISCHER and KOENIGS), 1907, A., i, 487.
- $C_{10}H_{17}O_2N$ , from bornylene and nitric acid (HENDERSON and HEILBRON), 1911, T., 1900; P., 249.
- $C_{10}H_{17}O_4N$ , and its hydrochloride from cotarnine and vanillin (RENZ and HOFFMANN), 1904, A., i, 611.
- $C_{10}H_{18}O_2N_3$ , isomeride of  $\alpha$ -limonene hydroxylamineoxime (CUSMANO), 1910, A., i, 686.
- $C_{10}H_{18}O_2N_4$ , from chloralurethane (DIELS and GUKASSIANZ), 1911, A., i, 24.
- $C_{10}H_{18}O_3S$ , from the reduction of camphane-hydrate-sulphonic chloride (BORSCHKE and LANGE), 1906, A., i, 680.
- $C_{10}H_{18}O_4N_2$ , from methyl piperazine-diacetate methiodide (FRANCHIMONT and KRAMER), 1902, A., i, 391.
- $C_{10}H_{19}ON$ , from the reduction of  $\alpha$ -anhydropulegonehydroxylamine (SEMMLER), 1904, A., i, 438.
- $C_{10}H_{19}O_5P$ , from camphor and phosphoric acid (SHUKOFF and KASATKIN), 1909, A., i, 397.
- $C_{10}H_{19}O_6N_5$ , and  $C_{11}H_{18}O_4H_5$ , from egg-albumin (HUGOUNENQ and GALIMARD), 1906, A., i, 776.
- $C_{10}H_{19}O_9N$ , from the hydrolysis of copper chondroitin-sulphate (FRÄNKEL), 1907, A., i, 369.
- $C_{10}H_{21}ON$ , and its thiocarbamide, from  $\alpha$ -anhydropulegonehydroxylamine (SEMMLER), 1904, A., i, 602.
- $C_{10}H_5O_5N_2Na_3$ , from tetraketopiperazine and sodium phenoxide (DE MOULPIED and RULE), 1909, T., 551.
- $C_{10}H_6O_2N_2Cl_2$ , from 5:6-dichloro-anthranilic diformalide ethyl ether and potassium cyanide (VILLIGER), 1909, A., i, 931.
- $C_{10}H_8ON_2S$ , from 1:8-naphthylenediamine and thionyl chloride (SACHS), 1909, A., i, 432.
- $C_{10}H_{10}N_2Br_4Si$ , from pyridine and silicon tetrabromide (REYNOLDS), 1909, T., 513.
- $C_{10}H_{11}O_3N_2Br_3$ , from the action of potassium hypobromite on the green oil from the nitrosate of 1-nitro-camphene (FORSTER and MICKLETHWAIT), 1904, T., 334; P., 19.
- $C_{10}H_{14}O_4N_2S_3$ , from the action of ethyl chloroacetate on hydrazine dithiocarbazate (ANDREASCH), 1908, A., i, 684.
- Substance,  $C_{10}H_{17}O_3N_3S$ , from ethyl cyanoacetylacetate and ethyl- $\psi$ -thiocarbamide hydrobromide (WHEELER), 1907, A., i, 973.
- $C_{10}H_{20}O_2N_2Cl_2$ , from isomeride of  $\alpha$ -limonenehydroxylamineoxime (CUSMANO), 1910, A., i, 686.
- $C_{11}H_8O_4$ , preparation of, and use of, for the identification of carbamide and primary amines (FENTON), 1903, T., 187.
- $C_{11}H_8O_8$ , from the decomposition of methyl malonate chloride (LEUCHS), 1906, A., i, 796.
- $C_{11}H_{10}O_3$ , from West Indian satinwood (AULD and PICKLES), 1912, T., 1054; P., 143.
- $C_{11}H_{10}O_4$ , from  $\omega$ -bromomethylfurfuraldehyde and barium carbonate (COOPER and NUTTALL), 1911, T., 1200; P., 135.
- $C_{11}H_{12}O_3$ , and its dibromide, from the oil of *Piper Volkensii* (SCHMIDT and WEILINGER), 1906, A., i, 299.
- $C_{11}H_{12}O_3$ , from the action of dilute acids on calmatambetin (PYMAN), 1907, T., 1232; P., 184.
- $C_{11}H_{12}O_4$ , from 3:4-dihydroxycinnamic acid and methyl alcohol (POSNER), 1911, A., i, 53.
- $C_{11}H_{14}O_4$ , from acetophenone and ethyl chlorocarbonate (HALLER and BAUER), 1911, A., i, 300.
- $C_{11}H_{14}O_5$ , from the condensation of maleic acid and ethyl acetoacetate in presence of acetic anhydride (TREFILIEFF), 1907, A., i, 1063.
- $C_{11}H_{14}O_6$ , from ethyl methylacetonedicarboxylate (FEIST and POMME), 1910, A., i, 9.
- $C_{11}H_{16}O_4$ , from acetylacetone and formaldehyde (RABE and ELZE), 1904, A., i, 749.
- $C_{11}H_{18}O$ , from  $\alpha\delta$ -di-iodopentane and potassium sulphide (v. BRAUN), 1911, A., i, 75.
- $C_{11}H_{18}O_3$ , from oxidation of caryophyllene (HAARMANN), 1909, A., i, 401.
- $C_{11}H_{20}O_2$ , and  $C_{12}H_{22}O_4$ , from the oxidation of octaglycol isobutyrate (LESCH and MICHEL), 1905, A., i, 403.
- $C_{11}H_{22}O_2$ , from ethynopinol (WALLACH), 1907, A., i, 1059.
- $C_{11}H_2O_2N_3$ , from pyridine and 1:3-dichloro-4:6-dinitrobenzene, salts of (ZINCKE and WEISSPENNING), 1910, A., i, 585.
- $C_{11}H_8O_2N_2$ , from quinoline, methyl sulphate and nitromethane (KAUFMANN), 1912, A., i, 1017.

**Substance,  $C_{11}H_9O_2N$** , from citrodianilidic acid (BERTRAM), 1905, A., i, 466.

$C_{11}H_{10}O_2N_2$ , and its benzoyl derivative, from the trioxime of 3-nitrosophenylmethylpyrrole (ANGELICO), 1905, A., i, 660.

$C_{11}H_{10}O_3N_2$ , from ethylenediamine and phthalonic acid (MANUELLI and MASELLI), 1906, A., i, 308.

$(C_{11}H_{10}O_4N)_x$ , from reduction of 2-keto-8(5)-methoxy-6:7-methylene-dioxy-1:2-dihydroquinoline (SALWAY), 1909, T., 1217.

$C_{11}H_{10}O_5N_4$ , from dinitroaminophenylpyridinium chloride (ZINCKE and WEISSPFENNING), 1912, A., i, 302.

$C_{11}H_{11}O_2N_3$ , from the trioxime of 3-nitrosophenylmethylpyrrole (ANGELICO), 1905, A., i, 660.

$C_{11}H_{11}O_5N$ , from purpuraldehyde, ethyl oxalacetate, and ammonia (SIMON and CONDUCHÉ), 1907, A., i, 964.

$C_{11}H_{13}ON$ , from heating dimethylglutaconic acid *trans*-semianilide (THOLE and THORPE), 1911, T., 2231.

$C_{11}H_{13}ON$ , and an isomeride from hydrolysis of 3:3:5-trimethylindolenine-2-formonitrile (PLANCHER and CARRASCO), 1909, A., i, 959.

$C_{11}H_{13}O_3N_3$ , from 3-methylpyrazolene-1-carbamidine and ethyl acetate (SCHESTAKOFF and KAZAKOFF), 1912, A., i, 1033.

$C_{11}H_{13}O_6N$ , from oxidation of nitrosantalol dimethyl ether (CAIN and SIMONSEN), 1912, T., 1074; P., 140.

$C_{11}H_{14}ON_2$ , from *p*-anisidine and acetonecyanohydrin (BUCHERER and GROLÉE), 1906, A., i, 350.

$C_{11}H_{13}O_3Br_3$ , from the action of bromine on matico-ether (FROMM and VAN EMSTER), 1903, A., i, 188.

$C_{11}H_{14}O_4N_2$ , from pilocarpic acid (PINNER), 1905, A., i, 463.

$C_{11}H_{14}O_5N_2$ , from substance  $C_{13}H_{17}O_6N$  (from ethylamine and ethyl 6-ethoxycoumalin-3:5-dicarboxylate) and ammonia (GUTHZEIT and EYSEN), 1909, A., i, 675.

$C_{11}H_{14}O_8N_2$ , from the action of formaldehyde on the ammonium derivative of ethyl nitromalonate (ULPIANI and PANNAIN), 1903, A., i, 863.

**Substance,  $C_{11}H_{15}ON_3$** , from 1-methyl-4-dichloroisopropylbenzene (AUWERS), 1905, A., i, 434.

$C_{11}H_{15}O_3N$ , from diacetyl and benzylhydroxylamine (SCHEIBER and WOLF), 1907, A., i, 1029.

$C_{11}H_{16}O_2N_2$ , from ethyl cyclohexan-2-one-1-carboxylate and piperazine (KÖTZ and MERKEL), 1909, A., i, 158.

$C_{11}H_{16}O_3N_3$ , from chloralurethane (DIELS and GUKASSIANZ), 1911, A., i, 24.

$C_{11}H_{16}O_4N_2$ , from ethyl 4-hydroxy-4-methylcyclohexan-6-one-1:3-dicarboxylate and hydrazine (RABE and RAHM), 1904, A., i, 748.

$C_{11}H_{17}O_2N$ , from action of sodium hydride on cyanocarone (CLARKE and LAPWORTH), 1910, T., 15.

$C_{11}H_{18}ON_2$ , and  $C_{12}H_{17}O_2N_3$ , from pinene (LEACH), 1906, P., 137.

$C_{11}H_{18}O_{10}N_6H_2O$ , from glyoxal and carbamide (BEHREND, MEYER, and RUSCHE), 1905, A., i, 419.

$C_{11}H_{19}O_2N$ , and  $C_{11}H_{19}O_3N$ , from isonitroso- and nitro-camphor and magnesium methiodide (FORSTER), 1904, P., 207.

$C_{11}H_{19}O_2N$ , from pinene nitrosochloride and sodium methoxide (DEUSSEN and PHILIPP), 1909, A., i, 815.

$C_{11}H_{20}O_2N_2$  (two), from the hydrolysis of casein (SKRAUP), 1903, A., i, 931.

$C_{11}H_{21}O_{16}N_9$ , from glyoxylic acid and guanidine (KAESS and GRUSZKIEWICZ), 1903, A., i, 7.

$C_{11}H_{22}O_2N_2$ , from 4-methylamino-1:2:2:4-tetramethyl-5-pyrrolidone and ethylene oxide (KOHN and BUM), 1910, A., i, 137.

$C_{11}H_{22}O_2N_6$ , from phorone and semicarbazide (RUPE and SCHLOCHOFF), 1904, A., i, 144.

$C_{11}H_{15}ONS_2$ , from ammonium phenyl-dithiocarbamate and ethyl  $\alpha$ -bromoisobutyrate (v. BRAUN), 1903, A., i, 16.

$C_{11}H_{11}OBrS_2$ , from dimethyl ether of  $C_9H_9OS_2$  (KELBER), 1910, A., i, 391.

$C_{11}H_{11}O_3SBr$ , and its methyl and ethyl esters, from benzylidenesulphobutyric acid (KÖHLER), 1904, A., i, 321.

$C_{11}H_{12}OBr_2S_2$ , from dimethyl ether of  $C_9H_9OS_2$  (KELBER), 1910, A., i, 391.

$C_{11}H_{15}ONS_2$ , from the action of amyl nitrite on camphoryldithiocarbamic acid (FORSTER and JACKSON), 1907, T., 1885; P., 242.

**Substance**,  $C_{11}H_{20}O_5N_2S$ , from ethyl oxalacetate and ethyl- $\psi$ -thiocarbamide hydrobromide (WHEELER), 1907, A., i, 973.

$C_{12}H_{14}$ , from action of silent electric discharge on benzene and hydrogen (LOSANITSCH), 1910, A., i, 2.

$C_{12}H_8O$ , from acenaphthenequinone, and its magnesium salts (KALLE & Co.), 1910, A., i, 752.

$C_{12}H_{10}O_2$ , from acetophenone and ethyl tetrolate (FEIST), 1906, A., i, 332.

$C_{12}H_{10}N_4$ , from trinitrodiphenylamine (KALLE & Co.), 1904, A., i, 455.

$C_{12}H_{13}O_3$ , from dihydroxylamino-hydrocoumarin and acetone (FRANCESCOINI and CUSMANO), 1909, A., i, 234.

$C_{12}H_{14}O_2$ , from phenol and cyclohexanone (SCHMIDLIN and LANG), 1910, A., i, 837.

$C_{12}H_{14}O_3$ , from cyclohexane-1:4-dione and ethyl succinosuccinate (STOLLÉ and MÖRING), 1904, A., i, 875.

$C_{12}H_{16}O_5$ , and its benzoyl derivative, from apiole mercuriacetate (BALBIANO, PAOLINI, and MAMMOLA), 1904, A., i, 73; (BALBIANO and PAOLINI), 1904, A., i, 261.

$C_{12}H_{18}O$ , and  $C_{13}H_{20}O$ , and their dibromides, from the action of magnesium alkyl iodides on hydroxy methylenecamphor (FORSTER and JUDD), 1905, T., 369; P., 116.

$C_{12}H_{18}O_4$ , from resorcinol and acetone (SCHMIDLIN and LANG), 1910, A., i, 387.

$C_{12}H_{19}O_7$ , from  $\beta\gamma\delta$ -triketopentane and ethyl malonate (SACHS and WOLFF), 1903, A., i, 792.

$C_{12}H_{20}O$ , from the action of sulphuric acid on butane- $\alpha\gamma$ -diol (BAUER), 1904, A., i, 280.

$C_{12}H_{20}O_5$ , from ethyl oxalate and ethyl bromodiethylacetate (RASSOW and BAUER), 1908, A., i, 316.

$C_{12}H_{22}O$ , from fossil dammar resin (GOTTLIEB), 1912, A., i, 39.

$C_{12}H_{22}O$ , from lauryl chloride by the action of heat (BISTRZYCKI and LANDTWING), 1910, A., i, 87.

$C_{12}H_{22}O_2$ , from camphorquinone and magnesium methiodide (FORSTER), 1904, P., 207.

$C_{12}H_{22}O_2$ , from polymeride of crotonaldehyde (DELÉPINE), 1910, A., i, 219.

$C_{12}H_{24}O_2$ , from the aldol  $C_6H_{14}O_2$  (MUNK), 1905, A., i, 559.

$C_{12}H_{24}O_2$ , from hydrolysis of picrotin, picrotoxinin, or picrotoxin (SIELISCH), 1912, A., i, 886.

**Substance**,  $C_{12}H_{24}S_8$ , from ethylene and hydrogen sulphide (LOSANITSCH), 1908, A., ii, 33.

$C_{12}H_8ON_2$ , from 9-hydroxy-2-methylperimidine hydrochloride (KERHMANN and ENGELKE), 1909, A., i, 151.

$C_{12}H_8O_2S_2$ , from the action of hydrogen peroxide on trithienyl (LANFRY), 1912, A., i, 1013.

$C_{12}H_8O_4S_2 \cdot 2H_2O$ , from oxidation of diphenylene *p*-disulphoxide (HILDITCH), 1910, T., 2588.

$C_{12}H_9O_4N \cdot H_2O$ , and its nitro-derivative, from  $C_{12}H_{10}O_3N_2$  (DE JONG), 1904, A., i, 551.

$C_{12}H_9O_2N_2$ , from 2-nitroresorcinol and diazobenzene chloride (KAUFFMANN and DE PAV), 1906, A., i, 169.

$C_{12}H_9O_7N_3$ , from betaine  $C_{12}H_7O_6N_3$  and sodium hydroxide (ZINCKE), 1910, A., i, 556.

$C_{12}H_{10}O_3N_2$ , and its acetyl derivative, from the phenylhydrazone of the  $\alpha\gamma$ -lactone of  $\gamma$ -hydroxy- $\alpha$ -ketobutane- $\alpha\gamma$ -dicarboxylic acid (DE JONG), 1904, A., i, 551.

$C_{12}H_{10}O_5N_2$ , from the action of nitrous acid on ethyl 1-iminohydrindene-2-carboxylate (MITCHELL and THORPE), 1910, T., 2272.

$C_{12}H_{10}N_2Cl_2$ , from hydrogen chloride and *p*-chloroazobenzene (JACOBSON and LOEB), 1909, A., i, 682.

$C_{12}H_{11}ON$ , from formaldehyde and formyl- $\beta$ -naphthylamine (ORLOFF), 1905, A., i, 190.

$C_{12}H_{11}O_2N$ , and its acetyl derivative, from  $\beta$ -naphthol, formaldehyde, and hydroxylamine (BETTI), 1906, A., i, 658.

$C_{12}H_{11}O_2N_5$ , from dimethylvioluric acid and *m*-phenylenediamine (PILOTY and FINCKH), 1904, A., i, 822.

$C_{12}H_{11}O_5N_3 \cdot H_2O$ , from dimethylalloxan and aminoresorcinol (PILOTY and FINCKH), 1904, A., i, 822.

$C_{12}H_{11}O_6N_3$ , from the action of ethyl chloroacetate on the potassium salt of 4-nitrophthalylhydrazide (CURTIUS and HOESCH), 1907, A., i, 1079.

$C_{12}H_{11}O_5Sb$ , from pyrogallol and antimonic acid (BIGINELLI), 1909, A., i, 802.

$C_{12}H_{12}O_3N_2$ , from methyl formylsuccinate, aniline, and phenylhydrazine (WISLICENUS, BÜKLEN, and REUTHE), 1909, A., i, 11.



**Substance,**  $C_{12}H_{12}O_3N_2$ , from the compound,  $C_8H_6O_4$ , and *o*-phenylenediamine (DIELS and STERN), 1907, A., i, 467.

$C_{12}H_{13}ON_3$ , and its benzoyl derivative, from benzeneazo-2:5-dimethylpyrrole (CASTELLANA), 1905, A., i, 941.

$C_{12}H_{13}O_8N$ , from ethyl tetrahydroxybenzenedicarboxylate (LEUCHS and THEODORESCU), 1910, A., i, 396.

$C_{12}H_{11}ON_2$ , from phenol and phenylhydrazine (CIUSA and BERNARDI), 1909, A., i, 675.

$C_{12}H_{14}O_7N_2$  from the aldehydic ester  $C_{22}H_{21}O_{12}N$  (LEUCHS and THEODORESCU), 1910, A., i, 396.

$C_{12}H_{15}O_6Na$ ,  $C_{14}H_{19}O_6Na$ , and  $C_{15}H_{21}O_6Na$ , from dimethylpyrone and sodiomalonates (VORLÄNDER and WEISSHEIMER), 1905, A., i, 794.

$C_{12}H_{16}O_2N_2$ , from the action of nitrous acid on the  $\beta$ -condensation product of *m*-1-xylydine and acetaldehyde (JONES and WHITE), 1910, T., 642.

$C_{12}H_{17}OI$ , from phenoxyhexylene (DIONNEAU), 1910, A., i, 354.

$C_{12}H_{17}O_3N_3$ , and its reactions, from pinene nitrosochloride and potassium cyanate (LEACH), 1906, P., 304; 1907, T., 10.

$C_{12}H_{18}O_2N_4$ , from hexamethylene-tetramine and resorcinol (GRISHKEWITSCH-TROCHIMOWSKY), 1910, A., i, 108.

$C_{12}H_{19}O_5N$ , condensation product from acetonecyanohydrin and hydrogen chloride (ULTÉE), 1910, A., i, 15.

$C_{12}H_{19}O_5N$ , from substance  $C_{13}H_{17}O_6N$  (from ethylamine and ethyl 6-ethoxycoumaline-3:5-dicarboxylate) and sodium hydroxide (GUTHZEIT and EYSEN), 1909, A., i, 674.

$C_{12}H_{20}O_2N_2$ , from the hydrolysis of casein (SKRAUP), 1908, A., i, 931.

$C_{12}H_{21}O_2N$ , from ethyl *n*-butinene- $\alpha$ -carboxylate and piperidine (DUPONT), 1909, A., i, 546.

$C_{12}H_{21}O_2N_3$ , from ethyl trimethylpyruvate and ammonia (RICHARD), 1911, A., i, 8.

$C_{12}H_{21}O_{13}N$ , from the nitration of cellulose (CRANE and JOYCE), 1910, A., i, 364.

$C_{12}H_{22}O_1N_2$ , from the oxidation of sparteine (WILLSTÄTER and MARX), 1905, A., i, 545.

$C_{12}H_{22}O_5N_4$ , from proto-albumose (LEVENE), 1905, A., i, 252.

**Substance,**  $C_{12}H_{32}O_{25}N_{12}$ , from glyoxylic acid and guanidine (KAESS and GRUSZKIEWICZ), 1903, A., i, 7.

$C_{12}H_5O_{10}N_5S$ , from oxidation of tetranitrophenazothionium hydroxide (BARNETT and SMILES), 1909, T., 1261.

$C_{12}H_6ON_2Cl$ , from 4-(*p*)-chloroanilino-2:3:6-trichlorobenzenediazonium nitrate, alcohol, and potassium carbonate (JACOBSON, BARTSCH, LOEB, and STEINBRECK), 1909, A., i, 684.

$C_{12}H_7O_6N_3S, H_2O$ , from oxidation of dinitroazothionium hydroxide (BARNETT and SMILES), 1909, T., 1264.

$C_{12}H_8O_3N_3Br$ , from  $\alpha$ -*p*-bromoozoxobenzene and nitric acid (ANGELI and VALORI), 1912, A., i, 321.

$C_{12}H_8O_7N_2Na_2$ , from oxidation of aniline-*p*-sulphonic acid (REITZENSTEIN), 1910, A., i, 703.

$C_{12}H_{10}ONCl_3, H_2O$ , from 2-methylquinoline and chloral (GERNGROSS), 1909, A., i, 189.

$C_{12}H_{13}O_6N_3S_2$ , from phenylindamine and sodium hydrogen sulphite (WEIL, DÜRRSCHNABEL, and LANDAUER), 1911, A., i, 1006.

$C_{12}H_{18}ONBr, H_2O$ , from trimethylamine, and  $\beta$ -bromopropiophenone, and its aurichloride and platinumchloride (SCHMIDT and GOEHRING), 1909, A., i, 322.

$C_{12}H_{18}O_6NCl_3$ , from anhydrochloralurethane and ethyl malonate (DIELS and SEIB), 1909, A., i, 886.

$C_{13}H_{10}O_3$ , from the condensation of cyclobutane-1:3-dione in the presence of quinoline (CHICK and WILMORE), 1910, T., 1998; P., 217.

$C_{13}H_{10}S$ , from benzophenone, formaldehyde, and alkali sulphides (COMPAGNIE MORANA), 1906, A., i, 24.

$C_{13}H_{12}O_2$ , from the action of benzyl chloride on resorcinol (BAKUNIN and ALFANO), 1907, A., i, 915.

$C_{13}H_{12}O_4$ , from the oxypeucedanin by the action of sulphuric acid (HERZOG and KROHN), 1910, A., i, 125.

$C_{13}H_{12}O_8$ , from the decomposition of ethyl malonate chloride (LEUCHS), 1906, A., i, 796.

$C_{13}H_{12}N_2$ , from dehydracetic acid (BENARY), 1910, A., i, 435.

$C_{13}H_{14}O_3$ , from benzylpyruvic acid and acetone (BOUGAULT), 1912, A., i, 771.

$C_{13}H_{11}O_4$ , from ethyl camphorylidene-cyanacetate and sulphuric acid (FORSTER and WITHERS), 1912, T., 1334.

**Substance,  $C_{13}H_{14}O_4$** , from tetramethylphloroglucinolaldehyde and acetic anhydride (HERZIG, WENZEL, and RONA), 1906, A., i, 94.

$C_{13}H_{14}O_5$ , and its acetyl derivative and phenylurethane, from oxypencetanin (HERZOG and KROHN), 1910, A., i, 125.

$C_{13}H_{14}N_2$ , and its additive salts, from aminoacetone and benzaldehyde (ALEXANDER), 1905, A., i, 92.

$C_{13}H_{16}O_5$ , from the oxidation of tetramethyldihydrobrazileinol (ENGELS, PERKIN, and ROBINSON), 1908, T., 1146.

$C_{13}H_{16}O_6$ , from the oxidation of tetramethyldihydrobrazileinol (ENGELS, PERKIN, and ROBINSON), 1908, T., 1145.

$C_{13}H_{18}O_6$ , from the methylation of methyl diketoapocamphorate (KOMPFA), 1904, A., i, 141.

$C_{13}H_{20}O_2$ , from  $\alpha$ -cyclogeraniol (BOUVEAULT), 1910, A., i, 380.

$C_{13}H_{20}S$ , from acetone, citral, and alkali sulphides (COMPAGNIE MORANA), 1906, A., i, 24.

$C_{13}H_9O_4N$ , from nitrofluorenyl acetate (SCHMIDT and BAUER), 1906, A., i, 26.

$C_{13}H_{10}ON_3$ , from nitroso-*m*-phenylenediamine (BERTELS), 1904, A., i, 621.

$C_{13}H_{11}O_2N$ , from xanthhydrol and hydroxylamine (FOSSE), 1906, A., i, 975.

$C_{13}H_{11}O_4N$ , from benzophenone and nitric acid (SHUKOFF and KASATKIN), 1909, A., i, 398.

$C_{13}H_{12}O_5N_3$ , from  $\beta\gamma\delta$ -triketopentane and *p*-nitrobenzyl cyanide (SACHS and WOLFF), 1903, A., i, 793.

$C_{13}H_{14}O_2N_4$ , from 2:2-dimethylindole (ANGELI and MARCHETTI), 1908, A., i, 207.

$C_{13}H_{15}O_2N$ , and its bromo-derivative, from *p*-tolylhydroxylamine and ethyl acetoacetate (SCHEIBER and WOLF), 1907, A., i, 1029.

$C_{13}H_{15}O_2N_3$ , from ethyl  $\alpha$ -cyano- $\alpha$ -ketobutyrate phenylhydrazine (WISLICHENUS and SILBERSTEIN), 1910, A., i, 539.

$C_{13}H_{15}NS_2$ , from bromoacetophenone, isobutylamine and carbon disulphide (v. BRAUN), 1903, A., i, 15.

$C_{13}H_{16}ON_2$ , from *m*-cresol and phenylhydrazine (CIUSA and BERNARDI), 1909, A., i, 675.

$C_{13}H_{16}O_3N_2$ , from ethyl acetoacetate and phenylcarbamide (KIESSLING), 1906, A., i, 946.

**Substance,  $C_{13}H_{17}O_6N$ ,  $H_2O$** , from ethyl camphorylidenecyanoacetate and hydrogen peroxide (FORSTER and WITHERS), 1912, T., 1336.

$C_{13}H_{18}O_4N_4$ , from *p*-aminobenzoic acid (BRESLER, FRIEDEMANN, and MAI), 1906, A., i, 322.

$C_{13}H_{19}ON$ ,  $\alpha$ - and  $\beta$ -isomerides from  $\psi$ -cumidine and acetaldehyde (JONES and WHITE), 1910, T., 643.

$C_{13}H_{19}O_2N$ , from mesityl oxide and benzylhydroxylamine (SCHEIBER and WOLF), 1907, A., i, 1028.

$C_{13}H_{19}O_3N$ , from ethyl  $\alpha$ -cyanocinnamate and magnesium isopropyl bromide (KOHLE and REIMER), 1905, A., i, 348.

$C_{13}H_{19}O_4Br$ , from dibromoasarone (THOMS and BECKSTROEM), 1904, A., i, 409.

$C_{13}H_{20}O_2N_4$ , from propaldoxime and *p*-toluenediazonium hydroxide (BRESLER, FRIEDEMANN, and MAI), 1906, A., i, 322.

$C_{13}H_{21}ON$ , from dimethylamine dimethylcamphoformolaminecarbonylate (TINGLE and HOFFMANN), 1905, A., i, 800.

$C_{13}H_{22}O_5N_2$ , from aminopinenedicarboxylic acid and glycine (GODDEN), 1908, T., 1172.

$C_{13}H_{25}O_2N$ , from the action of propylamine on ethyl vinyl ketone (BLAISE and MAIRE), 1908, A., i, 399.

$C_{13}H_{25}O_2N_3$ , from 1-hydroxymethylpiperidine and nitromethane (HENRY), 1905, A., i, 609.

$C_{13}H_{26}O_2N_2$ , from 4-ethylamino-2:2:3-trimethyl-1-ethyl-5-pyrrolidone and ethylene oxide (KOHN and BUM), 1910, A., i, 137.

$C_{13}H_{28}O_{12}N_8$ , from 5-hydroxy-1:3-diethylhydantoylcarbamide and acetone (BILTZ and TOPP), 1911, A., i, 693.

$C_{13}H_8O_2NCl$ , from phenol, *o*-nitrobenzaldehyde, and hydrochloric acid (GUYOT and HALLER), 1904, A., i, 530.

$C_{13}H_8O_7N_2S$ , from 1-chloro-2:4-dinitrobenzene and *o*-thiolbenzoic acid (MAYER), 1910, A., i, 261.

$C_{13}H_{11}O_4NI$ , from the action of iodine on dehydroacetic acid (ORTOLEVA and VASSALLO), 1904, A., i, 645.

$C_{13}H_{16}O_6NNa$ , from ethyl oxalacetate and ethyl sodiocyanoacetate (SCHMITT), 1907, A., i, 113.

$C_{13}H_{18}O_2NHg$ , from *p*-aminophenylmercuric chloride and  $\beta$ -ethoxyacetaldehyde acetal (REITZENSTEIN and BONITSCH), 1912, A., i, 740.

**Substance,**  $C_{13}H_{15}O_3NI_3$ , from di-iodo-tyrosine, methyl iodide and potassium hydroxide (WHEELER and JOHNS), 1910, A., i, 114.

$C_{11}H_8O_6$ , and its potassium salt and diacetyl derivative, from the oxidation of quinolcarboxylic acid (JUCH), 1905, A., i, 701.

$C_{14}H_6O_{10}$ , and its hexa-acetyl derivative, from the oxidation of ellagic or flavellagic acid (PERKIN), 1906, P., 114.

$C_{14}H_8N_4$ , from the action of hydrochloric acid on 1:5-disulphohydrazinoanthraquinone (FARBENFABRIKEN VORM. F. BAYER & Co.), 1906, A., i, 905.

$C_{14}H_{10}O_7$ , from xanthophanic acid ethers and sulphuric acid (LIEBERMANN), 1906, A., i, 557.

$C_{14}H_{12}O$ , from 9-methylfluorene alcohol (DAUFRESNE), 1908, A., i, 165.

$C_{11}H_{12}O_2$ , and its diacetyl derivative, from hydrogen bromide and dihydroxystilbene (ZINCKE and FRIES), 1903, A., i, 178.

$C_{14}H_{12}O_3$ , and its acetate and benzoate, from the condensation of resorcinol (MEYER and MARX), 1907, A., i, 413.

$C_{11}H_{12}O_3$ , and its derivatives, from West Indian satinwood (AULD and PICKLES), 1912, T., 1055; P., 143.

$C_{14}H_{12}O_5$ , and its acetyl derivative, from Grindelia resin (POWER and TUTIN), 1908, A., ii, 526.

$C_{14}H_{12}O_6$ , from extract of red clover flowers (POWER and SALWAY), 1910, T., 243; P., 20.

$C_{14}H_{12}O_6$ , from isogalloflavin trimethyl ether (HERZIG, ERDÖS, and RUZICKA), 1910, A., i, 676.

$C_{11}H_{14}O_3$ , from  $\alpha\gamma$ -dimethylglutaconic acid and phosphorus pentachloride, and its anilide and methyl hydrogen ester (FRIST and REUTER), 1910, A., i, 10.

$C_{14}H_{16}O_4$ , and  $C_{16}H_{16}O_3$ , and their benzoyl derivatives, from guaiaconic acid (RICHTER), 1906, A., i, 443.

$C_{11}H_{16}N_6$ , from the action of magnesium phenyl bromide on bistriazoethane (FORSTER, FIERZ, and JOSHUA), 1908, T., 1072; P., 102.

$C_{14}H_{20}O$ , from acetone and cyclopentadiene (THIELE and BALHORN), 1906, A., i, 639.

$C_{14}H_{20}O_2$ , from di-isobutyl and magnesium phenyl bromide (BOUVÉAULT and LOCQUIN), 1906, A., i, 803.

**Substance,**  $C_{14}H_{20}O_3$ , from oxidation of caryophyllene (HAARMANN), 1909, A., i, 400.

$C_{11}H_{22}O$ , from  $\psi$ -euphorbone (TSCHIRCH and LEUCHTENBERGER), 1908, A., i, 196.

$C_{14}H_{22}O_2$ , from ethyl diazoacetate and  $\alpha$ -pinene (LOOSE), 1909, A., i, 463.

$C_{14}H_4O_2Cl_{11}$ , and  $C_{14}H_5O_2Cl_{11}$ , from the action of chlorine on di-*p*-aminostilbene (ZINCKE and FRIES), 1903, A., i, 180.

$C_{14}H_5O_2Cl_{13}$  (two), from the action of chlorine on tetrachlorodi-*p*-hydroxytolane tetrachloride (ZINCKE and FRIES), 1903, A., i, 182.

$C_{14}H_6O_2Cl_{12}$ , from the action of chlorine on tetrachlorodi-*p*-hydroxystilbene dichloride (ZINCKE and FRIES), 1903, A., i, 180.

$C_{14}H_8O_2N_2$ , from 4-hydrazino-1-hydroxyanthraquinone and aniline (FARBENFABRIKEN VORM. F. BAYER & Co.), 1906, A., i, 904.

$C_{14}H_8O_3Cl_6$ , from reduction of hemiether of hexachloroethoxy-*o*-quinocatechol, and its tetra-acetyl derivative (JACKSON and KELLEY), 1909, A., i, 495.

$C_{11}H_{10}ON_4$ , from dihydrazinoanthraquinone hydrochloride (FARBENFABRIKEN VORM. F. BAYER & Co.), 1906, A., i, 904.

$C_{11}H_{10}O_2N_2$ , and  $C_{14}H_9O_2N_9$ , from 1-hydroxy-2-phenylindole and 3-isomino-2-phenylindole (ANGELI and ANGELICO), 1904, A., i, 526.

$C_{11}H_{10}O_2Br_2$ , and  $C_{13}H_{12}O_2Br_2$ , from *m*-bromoanisole and benzoyl chloride (DIELS and BUNZL), 1905, A., i, 432.

$C_{14}H_{10}O_3N_4$ , from 1:8-naphthylenediamine and alloxan (SACHS, MYLO, MEYERHEIM, BRUNETTI, DAMM, MÖHRKE, SCHWABACHER, STEINER, and VOSS), 1909, A., i, 432.

$C_{14}H_{10}O_7S_2$ , from sulphur monochloride and sodium benzoate (DENHAM), 1909, T., 1237.

$C_{14}H_{10}O_5N$ , from 5-aminosalicylic acid and *o*-nitrobenzaldehyde (PUXEDDU), 1909, A., i, 720.

$C_{14}H_{10}O_5N_2$ , from 6-amino-*m*-hydroxybenzoic acid and *o*-nitrobenzaldehyde, and hydrochloride of, and two isomerides from the *m*- and *p*-aldehydes (PUXEDDU), 1909, A., i, 720.

$C_{11}H_{11}ON$ , from 3-nitroso-1-hydroxy-2-phenylindole (ANGELI and ANGELICO), 1907, A., i, 153.



- Substance,  $C_{14}H_{11}ON_5$  (two), from 5-hydroxy-1-phenyltriazole and benzenediazonium chloride (DIMROTH and EBERHARDT), 1905, A., i, 100.
- $C_{14}H_{11}O_4N$ , from 6-amino-*m*-hydroxybenzoic acid and salicylaldehyde (PUXEDDU), 1909, A., i, 720.
- $C_{14}H_{11}O_4N$ , from 5-aminosalicylic acid and *p*-hydroxybenzaldehyde (PUXEDDU), 1909, A., i, 720.
- $C_{14}H_{11}O_5N$ , from 5-aminosalicylic acid and catechualdehyde (PUXEDDU), 1909, A., i, 721.
- $C_{14}H_{12}ON_2$ , and its benzoate and acetate and methyl derivative, from *as*-phenylbenzylhydrazine and carbamide (MILRATH), 1908, A., i, 581.
- $C_{14}H_{12}ON_2$ , from salicylideneaniline and potassium cyanide (ROHDE and SCHÄTEL), 1910, A., i, 776.
- $C_{14}H_{12}O_2N_2$ , and its isomeride, from the phenylhydrazone of dehydracetic acid (STOLLÉ), 1905, A., i, 838.
- $C_{14}H_{12}O_3N_2$ , and its acetyl derivative, from 2-amino-5-ethoxyphenol (HENRICH and SCHIERENBERG), 1904, A., i, 1050.
- $C_{14}H_{12}O_4N_2$ , from *p*-orsellinic acid and benzenediazonium chloride (HENRICH and DORSCHKY), 1904, A., i, 502.
- $C_{14}H_{13}ON$  (two), and their urethanes, from 6-hydroxy-3-methylbenzaldehyde and aniline (ANSELMINO), 1906, A., i, 13.
- $C_{14}H_{13}O_2N_3$ , from xanthhydrol and semicarbazide (FOSSE), 1906, A., i, 975.
- $C_{14}H_{13}O_3N$ , from  $\beta$ -dinitrodiphenylethane and sodium ethoxide (ANGELI, CASTELLANA, and FERRERO), 1909, A., i, 740.
- $C_{14}H_{13}O_3N$ , from the action of nitric acid on diphenylethane (KONOWALOFF and JATZEWITSCH), 1905, A., i, 763.
- $C_{14}H_{13}O_6N$ ,  $C_{15}H_{15}O_6N$ , and  $C_{16}H_{17}O_6N$ , from the condensation of ethyl phenylglycinoacetate with oxalic esters in presence of alkyl oxides (DE MOUILPIED), 1905, T., 447; P., 64.
- $C_{14}H_{11}O_2N_2$ , from 4-keto-2-benzyl-4:5-dihydroglyoxaline (FINGER and ZEH), 1910, A., i, 591.
- $C_{14}H_{11}O_5N_2$ , from ethyl 1-cyanoacyclopropane-1-carboxylate (MITCHELL and THORPE), 1910, T., 1001.
- $C_{14}H_{11}O_5Br_2$ , from  $C_{14}H_{11}O_5$ , and bromine (FEIST and REUTER), 1910, A., i, 10.
- Substance,  $C_{14}H_{15}ON_2$ , from ethyl 1-methyl-3-cyclohexanone-4-carboxylate and phenylhydrazine (KÖTZ and HESSE), 1906, A., i, 88.
- $C_{14}H_{17}O_4N$ , from *p*-ethoxyphenylmaleimide, and its sodium derivative (PIUTTI), 1910, A., i, 23.
- $C_{14}H_{18}O_3N_6$ , from hydantoin and formaldehyde (BEHRNDT and NIEMEYER), 1909, A., i, 258.
- $C_{14}H_{19}O_5N_3$ , from nitration of quinol di-isobutyl ether (NIETZKI and KESSELRING), 1911, A., i, 39.
- $C_{14}H_{23}O_5N$ , from acetylacetoneamine and ethylidene malonate (KNOEVENAGEL, ERLER, and REINECKE), 1903, A., i, 652.
- $C_{14}H_{27}O_3N_3$ , from the action of formaldehyde on  $C_{13}H_{25}O_2N_3$  (HENRY), 1905, A., i, 609.
- $C_{14}H_{10}O_4I_2$ , from silver benzoate and iodine (BUNGE), 1909, A., i, 472.
- $C_{14}H_{11}ON_3S$ , and its isomeride and its acetyl derivative, from phenylthiocarbamide and hydrogen peroxide (DOST), 1906, A., i, 315.
- $C_{14}H_{11}O_3N_2Cl$ , from nitrosobenzene and methyl 5-chloroanthranilate (FREUNDLER), 1910, A., i, 446.
- $C_{14}H_{14}ONBr$ , from  $\beta$ -bromopropiophenone and pyridine (SCHMIDT and GOEHRING), 1909, A., i, 322.
- $C_{14}H_{14}O_3NS$ , from sodium  $\omega$ -chlorotoluene-*p*-sulphonate and dimethylaniline (BADISCHE ANILIN- & SODAFABRIK), 1912, A., i, 176.
- $C_{14}H_{23}O_3NCl_2$ , from carpine hydrochloride and chlorine (BARGER), 1910, T., 472; P., 53.
- $C_{14}H_9ONCl_2P$ , from action of phosphorus pentachloride on phenylbenzometoxazone, and on benzoylsalicylonitrile (TITHERLEY and HICKS), 1909, T., 918.
- $C_{14}H_9O_3NCl_5P$ , from action of phosphorus pentachloride on phenylbenzometoxazone, and on benzoylsalicylonitrile (TITHERLEY and HICKS), 1909, T., 918.
- $C_{14}H_{10}O_2NCl_5P$ , from phosphorus pentachloride and phenylbenzometoxazone (TITHERLEY and HICKS), 1909, T., 919.
- $C_{14}H_{15}O_2NCl_5Sb$ , from di-*p*-anisylamine and antimony pentachloride (WIELAND and WECKER), 1910, A., i, 243.
- $C_{15}H_{10}O_6$ , from extract of red clover flowers and its acetyl derivative (POWER and SALWAY), 1910, T., 239; P., 20.

Substance,  $C_{15}H_{12}O_3$ , from aloë-emodin (HESSE), 1908, A., i, 439.

$C_{15}H_{12}O_6$ , from hydrindoneoxalic acid (3-hydroxy-2-oxalyldindene) and acetic anhydride and sulphuric acid (THIELE and SCHNEIDER), 1909, A., i, 929.

$C_{15}H_{12}O_7$ , from 1:3:4-triketo-2-methyl-tetrahydroisoquinoline (FREUND and BECK), 1904, A., i, 619.

$C_{15}H_{14}O_4$ , from catechol and acetone (SCHMIDLIN and LANG), 1910, A., i, 837.

$C_{15}H_{14}O_7$ , from ergot, and its acetyl derivative (FREEBORN), 1912, P., 71.

$C_{15}H_{16}O_3$ , from angelica root oil, and its derivatives (BÖCKER and HAHN), 1911, A., i, 313.

$C_{15}H_{16}O_3$ , and its oxime and phenylhydrazone, from salicylideneacetylacetone (KNOEVENAGEL and ARNDT), 1905, A., i, 65.

$C_{15}H_{16}O_5$ , from acetylacetone and  $\beta\gamma\delta$ -triketo- $\delta$ -phenylbutane (SACHS and WOLFF), 1903, A., i, 792.

$C_{15}H_{16}O_7$ , from isogalloflavin trimethyl ether (HERZIG, ERDÖS, and RUZICKA), 1910, A., i, 677.

$C_{15}H_{18}O_3$ , from the action of benzaldehyde on magnesium and ethyl  $\alpha$ -bromoisobutyrate (ZELTNER), 1908, A., i, 244.

$C_{15}H_{18}O_3$ , from phenol and acetone (SCHMIDLIN and LANG), 1910, A., i, 837.

$C_{15}H_{18}Cl_8$  (or  $C_{15}H_{20}Cl_8$ ), from cadinene (DEUSSEN and LEWINSOHN), 1908, A., i, 354.

$C_{15}H_{20}O$ , from the essential oil of hyacinths (ENKLAAR), 1910, A., i, 123.

$C_{15}H_{20}O_1$ , from action of sodium methoxide on  $C_{11}H_{14}O_3$  (FEIST and REUTER), 1910, A., i, 10.

$C_{15}H_{22}O_3$ , from urushiol dimethyl ether ozonides and water (MAJIMA), 1909, A., i, 945.

$C_{15}H_{22}O_1$ , from caryophyllene (DEUSSEN and LEWINSOHN), 1908, A., i, 354.

$C_{15}H_{22}O_8$ , from artemisin and alkaline permanganate, and its diphenylhydrazone (RIMINI), 1909, A., i, 115.

$C_{15}H_{23}Br_5$ , from cadinene (DEUSSEN and LEWINSOHN), 1908, A., i, 354.

$C_{15}H_{24}O$ , from the oil of *Pinus pumila* (BÖCKER and HAHN), 1911, A., i, 549.

Substance,  $C_{15}H_{24}O$ , from oxidation of gurjun balsam oil, and its semicarbazone (DEUSSEN and PHILIPP), 1909, A., i, 815.

$C_{15}H_{24}O_4$ , from rhizome of *Cimicifuga racemosa* (FINNEMORE), 1910, A., i, 801.

$C_{15}H_{24}O_9$ , from acetone and pyrogallol (SCHMIDLIN and LANG), 1910, A., i, 837.

$C_{15}H_{26}O$ , from diethyl ketone and methyl iodide (HALLER and BAUER), 1910, A., i, 300.

$C_{15}H_8O_2N_2$ , from the oxidation of indigotin, and its reduction (PERKIN), 1906, P., 198.

$C_{15}H_9ON_3$ , from the lactone,  $C_{15}H_9O_2N_2$  (MANUELLI and SILVESTRI), 1904, A., i, 784.

$C_{15}H_{10}O_3N_2$ , and its salts and lactone, from *o*-phenylenediamine and phthalonic acid (MANUELLI and SILVESTRI), 1904, A., i, 784.

$C_{15}H_{11}ON_3$ , from hydrogen cyanide and phenylcarbimide (DIECKMANN and KÄMMERER), 1905, A., i, 874.

$C_{15}H_{11}O_2N$ , from phthalic anhydride and 2:4-lutidine (LANGER), 1906, A., i, 38.

$C_{15}H_{11}O_2Cl$ , from 7-hydroxy-2-phenylbenzopyryronium chloride (DECKER and V. FELLEBERG), 1909, A., i, 117.

$C_{15}H_{11}O_3N_3$ , from  $\alpha$ -2:4-dinitrophenyl- $\alpha\beta$ -propanedione- $\alpha$ -phenylhydrazone and sodium hydroxide (BORSCHKE), 1909, A., i, 233.

$C_{15}H_{12}ON_3$ , from 4-keto-1:3-diphenylpyrazolone and hydrazine (SACHS and BECHERESCU), 1903, A., i, 530.

$C_{15}H_{12}O_2N_2$ , from 4-keto-1:3-diphenylpyrazolone and phenylhydrazine (SACHS and BECHERESCU), 1903, A., i, 530.

$C_{15}H_{12}O_2N_2$  (two), m.p.  $186^\circ$  and  $120^\circ$ , from benzo-tetronic acid and phenylhydrazine (ANSCHÜTZ, ANSPACH, FRESSENIUS, and CLAUS), 1909, A., i, 662.

$C_{15}H_{12}O_3Br_2$ , from the hydrolysis of 5:5'-dibromo-2:2'-diethoxybenzophenone (DIELS and BUNZL), 1905, A., i, 432.

$C_{15}H_{12}O_4N_2$ , from *m*-nitro-*p*-toluidine and phthalonic acid (MANUELLI and MASELLI), 1906, A., i, 309.

$C_{15}H_{13}O_2N$ , from phenylhydroxylamine and benzoylacetalddehyde (ALESSANDRI), 1910, A., i, 753.

$C_{15}H_{13}O_4N$ , from 6-amino-*m*-hydroxybenzoic acid and anisaldehyde (PUXENDU), 1909, A., i, 720.

- Substance**,  $C_{15}H_{13}O_5N$ , from 6-amino-*m*-hydroxybenzoic acid and vanillin-aldehyde (PUXEDDU), 1909, A., i, 720.
- $C_{15}H_{14}O_3N_2$ , and its salts and acetyl and bromo-derivatives, from amino-oreinol monomethyl ether (HENRICH and SCHIERENBERG), 1905, A., i, 93.
- $C_{15}H_{14}O_5N_2$ , from substance  $C_{17}H_{17}O_6N$  (from aniline and ethyl 6-ethoxycoumalin-3:5-dicarboxylate) and ammonia (GUTHZEIT and EYSEN), 1909, A., i, 675.
- $C_{15}H_{14}O_5N_2$ , from methyl cyanoacetate (SCHMITT), 1904, A., i, 481.
- $C_{15}H_{15}O_4N$ , from the action of ethyl pyruvate on *p*-toluidine (SIMON), 1908, A., i, 738.
- $C_{15}H_{16}O_3N_2$ , and its salts and acetyl derivatives, from amino-oreinol monomethyl ether (HENRICH and SCHIERENBERG), 1905, A., i, 93.
- $C_{15}H_{17}O_2N$ , from reduction of *p*-toluenazo-*o*-phenetole (JACOBSON and HUBER), 1909, A., i, 853.
- $C_{15}H_{17}O_3N_3$ , from ethyl benzoyl-acetylacetate and semicarbazide (BORSCHKE and FELS), 1906, A., i, 510.
- $C_{15}H_{17}O_3Cl$ , formed as by-product in the aldolization of anisole (SCHOLL and HILGERS), 1903, A., i, 348.
- $C_{15}H_{18}O_2N_2$ , and  $C_{15}H_{21}O_4N$ , from parasantonin derivatives (FRANCESCONI), 1904, A., i, 171.
- $C_{15}H_{18}NCl$ , from the action of potassium ferrocyanide on *m*-toluenediazonium chloride (EHRENPREIS), 1907, A., i, 453.
- $C_{15}H_{19}O_3N$ , from nitrosohydroxyamino-derivatives of santonin (FRANCESCONI and CUSMANO), 1909, A., i, 724.
- $C_{15}H_{21}ON$ , and its acetyl derivative, from meconin methyl isopropyl ketone (LUKSCH), 1905, A., i, 69.
- $C_{15}H_{21}O_6N$ , from ethyl camphorylidene-cyanoacetate and hydrogen peroxide (FORSTER and WITHERS), 1912, T., 1336.
- $C_{15}H_{22}O_4N_2$ , and its nitrosochloride, from the blue caryophyllene nitrosite (DEUSSEN and LEWINSOHN), 1907, A., i, 946.
- $C_{15}H_{23}O_2N$ , from caryophyllene nitrosochloride (DEUSSEN and LEWINSOHN), 1907, A., i, 945.
- $C_{15}H_{23}O_6N$  (or  $C_{15}H_{23}O_7N_3$ ), from the blue caryophyllene nitrosite (DEUSSEN and LEWINSOHN), 1907, A., i, 946.
- Substance**,  $C_{15}H_{21}O_2N_4$ , from  $\psi$ -cumidine (BRESLER, FRIEDMANN, and MAI), 1906, A., i, 322.
- $C_{15}H_{24}O_4N_2$ , from the oxidation of sparteine (WILLSTÄTTER and MARX), 1905, A., i, 545.
- $C_{15}H_{24}O_{19}N_{12}$ , from glyoxylic acid and guanidine (KAESS and GRUSZKIEWICZ), 1903, A., i, 7.
- $C_{15}H_{25}ON$ , from diethylamine diethylcamphoformolaminocarboxylate (TINGLE and HOFFMANN), 1905, A., i, 800.
- $C_{15}H_{27}O_2N_3$ , from isonitrosoacetophenone, formaldehyde, and piperidine (DUDEN, BOCK, and REID), 1905, A., i, 569.
- $C_{15}H_{13}ONS$ , from aniline and a substance from acetophenone (KELBER), 1910, A., i, 391.
- $C_{15}H_{13}ON_2Cl$ , and its additive salts, from the action of *o*-nitrobenzaldehyde on dimethylaniline in presence of hydrochloric acid (ZINCKE and PRENTTZELL), 1906, A., i, 110.
- $C_{15}H_{13}ON_3S$ , from 5-thion-1:4-diphenylurazole (NIRDLINGER and ACREE), 1910, A., i, 786.
- $C_{15}H_{14}ON_2S$ , from formaldehyde and thiocarbamide (OPFERMANN), 1905, A., i, 770.
- $C_{15}H_{14}N_3SCl$ , from the action of acetyl chloride on  $\beta$ -diphenylsemithiocarbazine (BUSCH and SCHNEIDER), 1903, A., i, 534.
- $C_{15}H_{18}O_4NNa$ , from sodium ethoxide and *p*-ethoxyphenylcitrazonimide (PIUTTI), 1907, A., i, 313.
- $C_{15}H_{24}O_9N_3K_3$ , from *s*-trinitrobenzene and potassium propoxide (BUSCH and KÖGEL), 1910, A., i, 474.
- $C_{15}H_{22}ONCl_4Fe$ , ferrichloride of the additive compound of tropine and benzyl chloride (SCHOLTZ), 1910, A., i, 97.
- $C_{16}H_{10}O_5$ , from the root-bark of *Morinda citrifolia* (OESTERLE and TISZA), 1908, A., ii, 527.
- $C_{16}H_{10}O_6$ , from the oxidation of homohydroxysalicylic acid (DUREGGER), 1905, A., i, 702.
- $C_{16}H_{10}O_7$ , from extract of red clover flowers, and its acetyl derivative (POWER and SALWAY), 1910, T., 236; P., 20.
- $C_{16}H_{12}O_2$ , from the action of sodium hydroxide on 2-phenylbenzopyryonium chloride (DECKER and v. FELLEBERG), 1907, A., i, 1065.



**Substance**,  $C_{16}H_{12}O_4$ , from *p*-benzoquinone and 2:3-dihydroxynaphthalene (SIGMUND), 1909, A., i, 109.

$C_{16}H_{12}O_6$ , from the seeds of *Casimiroa edulis* (POWER and CALLAN), 1911, T., 2006; P., 258.

$C_{16}H_{14}O$ , and its methyl ether, from the dehydration of 9:10-dihydroxy-9:10-dimethyldihydroanthracene (GUYOT and STAEHLING), 1906, A., i, 17.

$C_{16}H_{14}O$ , from the action of sulphuric acid on the substance from benzylphenoxycetone and benzaldehyde (STOERMER and WEHLN), 1903, A., i, 41.

$C_{16}H_{14}O_8$ , and its bromide, from the action of iodine on dehydroacetic acid (ORTOLEVA and VASSALLO), 1904, A., i, 646.

$C_{16}H_{16}O_2$ , from the action of sodium ethoxide on phenylethylene glycol methyl ether (TIFFENEAU), 1908, A., i, 19.

$C_{16}H_{16}O_4$ , from the action of sulphuric acid on *m*-xyloquinol (BAMBERGER and BRUN), 1907, A., i, 521.

$C_{16}H_{16}O_6$ , and its bromo-derivative, from the action of heat on the sodium salt of ethyl acetoacetate (COLLIE and CHRYSSTALL), 1907, T., 1803; P., 231; (COLLIE), 1907, T., 1811.

$C_{16}H_{16}O_7$ , from the condensation of methyl 2:4-dimethoxybenzoylpropionate with ethyl oxalate (PERKIN and ROBINSON), 1908, T., 507.

$C_{16}H_{16}O_9$ , from isogalloflavin trimethyl ether (HERZIG, ERDÖS, and RUZICKA), 1910, A., i, 676.

$C_{16}H_{17}N$ , and its salts, from cinnamaldehyde and methylaniline (ZINCKE and WÜRKER), 1905, A., i, 243.

$C_{16}H_{18}O_2$ , from santalol and formaldehyde (STEPHAN), 1904, A., i, 814.

$C_{16}H_{26}O_4$ , from undecic acid and formaldehyde (FOKIN), 1911, A., i, 765.

$C_{16}H_{26}O_5$ , from the condensation of the aldehyde,  $C_8H_{14}O_3$  (RAPER), 1907, T., 1834.

$C_{16}H_{30}O$ , from action of silent electric discharge on ethylene (LOSANTSCH), 1910, A., i, 1.

$C_{16}H_8O_3S_2$ , from oxidation of "thio-indigo" (DANAILA), 1910, A., i, 411.

$C_{16}H_8O_4S_2$ , from oxidation of "thio-indigo" (DANAILA), 1910, A., i, 411.

**Substance**,  $C_{16}H_8O_5S_2$ , from oxidation of "thioindigo" (DANAILA), 1910, A., i, 411.

$C_{16}H_{10}O_7N_4$ , from picryl- $\alpha$ -naphthylamine and silver oxide (BUSCH and KÜGEL), 1910, A., i, 473.

$C_{16}H_{11}O_3N$ , from nitrosophenol,  $\alpha$ -naphthol, and alkali in acetone solution (A. and H. v. EULER), 1906, A., i, 370.

$C_{16}H_{11}O_7N_3$ , from 3:5-dinitro-4-hydroxybenzoic acid and quinoline (MORGENSTERN), 1910, A., i, 483.

$C_{16}H_{12}ON_2$ , and its derivatives, from 4-amino-2-naphthaquinone and *o*-aminophenol (KEHRMANN, DE GOTTRAU, and LEEMANN), 1907, A., i, 555.

$C_{16}H_{12}O_2N_2$ , from fumaric acid and *p*-phenylenediamine (WARREN and GROSE), 1912, A., i, 961.

$C_{16}H_{12}O_3N_2$ , from natural indigo (PERKIN and BLOXAM), 1907, T., 281; P., 30.

$C_{16}H_{12}O_3N_4$ , from 4-nitro-2-phenylindone and semicarbazide (BAKUNIN), 1912, A., i, 344.

$C_{16}H_{13}O_2N$ , from 2-methylindole and toluquinone (MÖHLAU and REDLICH), 1912, A., i, 129.

$C_{16}H_{13}O_2N$ , from  $\alpha$ -phenylcinnamionitrile and potassium cyanide (KNOEVENAGEL), 1904, A., i, 1028.

$C_{16}H_{13}O_3N$ ,  $\frac{1}{2}H_2O$ , from chrysophanic acid methyl ether and ammonia (OESTERLE and JOHANN), 1910, A., i, 860.

$C_{16}H_{13}O_3N$  (two), from safrole and nitrosobenzene (ANGELI, ALESSANDRI, and PEGNA), 1910, A., i, 552.

$C_{16}H_{13}O_5N_3$ , from the substance,  $C_{16}H_{16}O_5N_4$  (HELLER and SOURLIS), 1908, A., i, 208.

$C_{16}H_{13}N_3S$ , from 8-thiocyanoquinoline and aniline (EDINGER), 1908, A., i, 364.

$C_{16}H_{14}O_3N$ , from anisaldehydecyanohydrin and hydrogen chloride (MCCOMBIE and PARRY), 1909, T., 587; P., 95.

$C_{16}H_{14}O_4N_2$ , from indigo-brown (PERKIN and BLOXAM), 1907, T., 284; P., 30.

$C_{16}H_{14}O_4S_2$ , from sulphur monochloride and silver *o*-, *m*-, and *p*-toluates (DENHAM), 1909, T., 1239.

$C_{16}H_{14}O_4S_2$ , from sulphur monochloride and silver phenylacetate (DENHAM), 1909, T., 1239.

**Substance.**  $C_{16}H_{14}O_5S$ , from oxidation of ester,  $C_{16}H_{18}O_5S$ , from 3:5-dimethylol-*p*-cresol, sodium hydroxide, and toluenesulphonyl chloride (ULLMANN and BRITTNER), 1909, A., i, 591.

$C_{16}H_{14}O_6N_2$ , from the action of hydrazine hydrate on dehydracetic acid (STOLLÉ), 1905, A., i, 839.

$C_{16}H_{14}O_6N_4$  and its salts, from dinitrophenyldipyridinium dichloride and alkali (ZINCKE and WEISSPENNING), 1910, A., i, 585.

$C_{16}H_{16}ON_2$ , from  $\beta$ -naphthol and phenylhydrazine (CIUSA and BERNARDI), 1909, A., i, 675.

$C_{16}H_{16}O_5N_4$ , and its reactions (HELLER and SOURLIS), 1908, A., i, 208.

$C_{16}H_{18}O_3N_2$ , and its isonitroso-derivative, from ethyl acetoacetate and phenylmethylpyrazolone (STOLLÉ), 1905, A., i, 838.

$C_{16}H_{18}O_6N_{12}$ , and  $C_{18}H_{18}O_6N_{12}$ , from glycoluril and formaldehyde (BEHKEND, MEYER, and RUSCHE), 1905, A., i, 419.

$C_{16}H_{15}O_2N$ , and its semicarbazone, from the action of sodium and amyl formate on propyl benzoyl- $\delta$ -amino-butyl ketone (V. BRAUN and STEINDORFF), 1905, A., i, 812.

$C_{16}H_{19}O_6N$ , from the condensation of triacetic lactone and ethyl  $\beta$ -aminocrotonate (FLEISCHMANN), 1907, T., 256; P., 16.

$C_{16}H_{19}O_8N_3$ , from methyl cyanoacetate (SCHMITT), 1904, A., i, 481.

$C_{16}H_{20}ON_2$ , from  $\Delta^{1:4(8)}$ -terpadien-2-ol-3-one and *o*-phenylenediamine (MANASSE and SAMUEL), 1903, A., i, 45.

$C_{16}H_{20}O_3N_2$ , from Michlers' ketone and resorcinol (MEYER and PFOTENHAUER), 1907, A., i, 422.

$C_{16}H_{20}O_8N_2$ , from the electrolysis of ethyl sodiocyanomalonate (ULPIANI and RODANO), 1905, A., i, 260.

$C_{16}H_{21}O_2N$ , from dimethylketone and benzylidenemethylamine (STAUDINGER, KLEVER, and KOBER), 1910, A., i, 588.

$C_{16}H_{21}O_4N_3$ , from the action of aniline on  $C_{10}H_{15}O_6N_3$  (AMENOMIYA), 1905, A., i, 603.

$C_{16}H_{21}O_4P$ , from picrotin and phosphorus pentachloride (HORMANN), 1910, A., i, 577.

$C_{16}H_{22}O_5N_2$ , from ethyl 3-amino-1-methylcyclohexane-4-carboxylate (KÖTZ and MERKEL), 1909, A., i, 157.

**Substance.**  $C_{16}H_{23}O_{13}N, 3H_2O$ , from the hydrolysis of copper chondroitinsulphate (FRÄNKEL), 1907, A., i, 369.

$C_{16}H_{14}ON_2S$ , condensation product of 3-oxy-1-thionaphthen with *p*-nitrosodimethylaniline (BADISCHE ANILIN- & SODA-FABRIK), 1910, A., i, 60.

$C_{16}H_{14}ON_2S_2$ , from dibenzylamine, bromoacetal, and carbon disulphide (V. BRAUN), 1903, A., i, 16.

$C_{16}H_{15}ON_2Cl$ , from  $\alpha$ -2-chloro-1-naphthylpentan- $\gamma$ -one and semicarbazide (SACHS and BRIGL), 1911, A., i, 721.

$C_{16}H_{15}ON_2S$ , from the oxidation of *p*-tolylthiocarbamide and its isomeride, and its compound with phenylcarbimide (DOST), 1906, A., i, 315.

$C_{16}H_{15}O_2NS$ , from *o*-tolylthiourethane and bromoacetophenone (V. WALTHER and GREIFENHAGEN), 1907, A., i, 552.

$C_{16}H_{15}O_3N_3S$ , from the action of nitrogen sulphide on anisaldehyde (FRANCIS and DAVIS), 1904, T., 1536; P., 204.

$C_{16}H_{18}O_2NCl$ , from  $\omega$ -chloro-*p*-toluic acid (BADISCHE ANILIN- & SODA-FABRIK), 1912, A., i, 355.

$C_{16}H_{18}O_4Na$ , from the sodium derivative of dimethylacetone and *p*-ethoxyphenylcitraconimide (PIUTTI), 1907, A., i, 313.

$C_{16}H_{12}O_6N_2S_2Na_2$ , from 1-naphthol-4-sulphonic acid, phenylhydrazine and sodium hydrogen sulphite (BUCHERER and SONNENBURG), 1910, A., i, 145.

$C_{17}H_{10}O_3$ , from the reduction of anhydrophthalylbis-1:3-indanedione (MÄRCHSE), 1907, A., i, 941.

$C_{17}H_{13}N$ , and its hydrochloride and acetyl derivative, from the action of nitrous acid on *p*-tolyl- $\beta$ -naphthylamine (BUCHERER and SEYDEL), 1907, A., i, 345.

$C_{17}H_{11}O_2$ , and its acetate, from dibenzylidenacetone, sulphuric acid, and acetic anhydride (VORLÄNDER and SCHROEDTER), 1903, A., i, 496.

$C_{17}H_{11}O_2$ , from oxidation of 1-benzoyl-1-benzylcyclopropane (HALLER and BENOIST), 1912, A., i, 570.

$C_{17}N_{16}N_2$ , from interaction of magnesium phenyl bromide and 3:3-dimethylindolenine-2-carboxylnitrile, and its oxime and *p*-nitrophenylhydrazone (PLANCHER and GIUNELLI), 1910, A., i, 63.

Substance,  $C_{17}H_{15}O$ , from hydrindene (GATTERMANN), 1906, A., i, 592.

$C_{15}H_{18}O_2$ , from benzophenone and ethyl ether (PATERNO and CHIEFFI), 1911, A., i, 65.

$C_{17}H_{20}O_3$ , obtained as a by-product in the aldoximation of phenetole (SCHOLL and KREMPER), 1903, A., i, 348.

$C_{17}H_{24}O_6$ , from acetylacetone and formaldehyde (RABE and ELZE), 1904, A., i, 749.

$C_{17}H_{12}O_7N_2$ , from 3:5-dinitro-4-hydroxybenzoic acid and naphthalene (MORGENSTERN), 1910, A., i, 482.

$C_{17}H_{13}ON$ , from dibenzylideneacetone dibromide (GROEBEL), 1903, A., i, 497.

$C_{17}H_{13}O_2N_5$ , from *p*-nitrobenzyl cyanide and *p*-nitroso- $\omega$ -cyanodimethylaniline (WARUNIS and SACHS), 1904, A., i, 669.

$C_{17}H_{13}O_5N$ , from the ethyl ester of the acid  $C_4H_4O_3N_2$  and benzyl alcohol (FRIEDRICH and HARTWIG), 1906, A., i, 164.

$C_{17}H_{14}ON_2$ , from the oxidation of  $\alpha$ -dibenzylideneacetonehydroxylamineoxime (MINUNNI and CIUSA), 1906, A., i, 95.

$C_{17}H_{14}O_2N$ , from  $\alpha$ - or  $\beta$ -naphthaquinone and *p*-methylthiolaniline (ZINCKE and JÖRG), 1911, A., i, 40.

$C_{17}H_{14}O_2N_2$ , from indigotin and magnesium methyl bromide (SACHS and KANTOROWICZ), 1909, A., i, 425.

$C_{17}H_{14}O_3N_4$ , from *o*-nitrobenzaldehyde and 4-amino-1-phenyl-3-methyl-5-pyrazolone (HEIDUSCHKA and ROTHACKER), 1912, A., i, 52.

$C_{17}H_{14}O_4N_4$ , from 1-phenyl-5-triazolone-4-carboxylic acid and methyl alcohol (DIMROTH and EBERHARDT), 1905, A., i, 100.

$C_{17}H_{14}O_6Br_2$ , from the reduction of  $\beta$ -bromocarmine (ROHDE and DORFMÜLLER), 1910, A., i, 492.

$C_{17}H_{15}O_2N_6$  (two), from nitrosodipyrromethine acid and phenylhydrazine, and their derivatives (PERATONER), 1912, A., i, 299.

$C_{17}H_{15}O_4N$ , from anhydro- $\beta$ -methyltricarballic acid and  $\alpha$ -naphthylamine (HOPE), 1912, T., 911.

$C_{17}H_{16}O_2N_2$ , from benzoyl chloride, sodium hydroxide, and 4-methylglyoxaline (INOUE), 1907, A., i, 482.

$C_{17}H_{16}O_2N_4$ , from the action of phenylhydrazine on methyl or ethyl formylsuccinate (WISLIZENUS, BÖCKLEN, and REUTHE), 1909, A., i, 11.

Substance,  $C_{17}H_{16}O_2Br_4$ , from the action of boiling sodium hydroxide on the condensation product of 3:5-dibromo-4-hydroxy-2:6-dimethylbenzyl bromide with pyridine or diethylamine (AUWERS and RIETZ), 1907, A., i, 919.

$C_{17}H_{18}O_2N_2$ , from the reduction of disalicylideneacetonehydroxylamineoxime (MINUNNI and CIUSA), 1906, A., i, 96.

$C_{17}H_{18}O_3N_2$ , from oxidation of 4:5-diphenylglyoxalone (BILTZ and RIMPEL), 1909, A., i, 742.

$C_{17}H_{18}O_3N_2$ , from the interaction of *p*-nitrobenzyl chloride and isonitrosocamphor (FORSTER and HOLMES), 1908, T., 248; P., 8.

$C_{17}H_{18}O_4N_2$ , from ethyl benzoylglyoxylate and phenylhydrazine (WAHL), 1907, A., i, 362.

$C_{17}H_{19}O_4N$ , from benzoylacetoneamine and ethylidene malonate (KNOEVENAGEL, ERLER, and REINECKE), 1903, A., i, 652.

$C_{17}H_{19}O_7N_3$ , from ethyl tetrolate, ethyl oxalate, and *p*-nitrophenylhydrazine (FEIST), 1906, A., i, 332.

$C_{17}H_{20}O_4N_2$  (m.p. 175°), from the interaction of *p*-nitrobenzyl chloride and isonitrosocamphor (FORSTER and HOLMES), 1908, T., 248; P., 8.

$C_{17}H_{20}O_4N_2$  (m.p. 114°), from the interaction of *p*-nitrobenzyl bromide and isonitrosocamphor (FORSTER and HOLMES), 1908, T., 250; P., 9.

$C_{17}H_{21}ON$ , and its picrate and bromoderivative, from the action of ammonium formate on benzoylcamphor (FORSTER), 1903, T., 108.

$C_{17}H_{21}ON$ , and its picrate, platinumchloride, and benzoyl derivative, from the action of alcoholic ammonia on phenylchloromethylene-camphor (FORSTER), 1903, T., 106.

$C_{17}H_{21}N_3S$ , from camphorylphenylthiosemicarbazide (FORSTER and JACKSON), 1907, T., 1890; P., 242.

$C_{17}H_{23}O_3N_3$ , from *d*-leucyl-*L*-tryptophan (FISCHER), 1910, A., i, 22.

$C_{17}H_{26}O_2Cl_8$ , from fatty acids in cod liver oil (HEIDUSCHKA and RHEINBERGER), 1910, A., i, 297.

$C_{17}H_{11}O_6N_4Cl$ , from picryl chloride and methyl- $\alpha$ -naphthylamine (BUSCH and KÖGEL), 1910, A., i, 478.

$C_{17}H_{14}O_3NCl$ , from quinolyacetylvenetrole and hydrochloric acid (MANNICH and HUBNER), 1911, A., i, 566.



- Substance.**  $C_{17}H_{14}O_4N_2S_2$ , from im-medial-indone (FRANK), 1910, T., 2045; P., 218.
- $C_{17}H_{15}N_2Cl_3Hg_2$ , from dinitrophenylpyridinium chloride and *p*-aminophenyl mercuriacetate (REITZENSTEIN and STAMM), 1910, A., i, 348.
- $C_{17}H_{81}O_3NCl_2$ , from ethyl  $\omega$ -2-dichlorotoluene-*p*-sulphonate and dimethylaniline (BADISCHE ANILIN- & SODA-FABRIK), 1912, A., i, 176.
- $C_{17}H_{26}O_2Cl_4I_4$ , from fatty acids of cod liver oil (HEIDUSCHKA and RHEINBERGER), 1910, A., i, 297.
- $C_{17}H_{27}O_2BrMg$ , from action of magnesium on *p*-tolyl ethyl ketone and allyl bromide (GRISHKEWITSCH-TROCHIMOWSKY), 1910, A., i, 109.
- $C_{17}H_{32}O_7N_4S_2$ , from ethyl oxalomal-onate and ethyl- $\psi$ -thiocarbamide hydrobromide (WHEELER), 1907, A., i, 973.
- $C_{17}H_{16}ON_2Cl_2Hg_2$ , from dinitrophenylpyridinium chloride and *p*-aminophenyl mercuriacetate (REITZENSTEIN and STAMM), 1910, A., i, 348.
- $C_{18}H_{10}O_5$ , from hydroxymethylene-phthalide (GABRIEL), 1907, A., i, 215.
- $C_{18}H_{12}O_3$ , from the action of phenylhydrazine on the substance,  $C_{33}H_{22}O_7$  (SCHARWIN), 1905, A., i, 448.
- $C_{18}H_{12}O_6$ , from oxidation of bisdiketo-hydrindene, and its acetyl and benzoyl derivatives and methyl ether (VOSWINCKEL), 1909, A., i, 166.
- $C_{18}H_{12}O_8$ , from kermesic acid and hydriodic acid (DIMROTH), 1910, A., i, 488.
- $C_{18}H_{13}N_3$ , and its salts, from the compound,  $C_{18}H_{14}N_3I$ , from benzaldehydephenylhydrazone and iodine in pyridine solution (ORTOLEVA), 1907, A., i, 729.
- $C_{18}H_{14}O_3$  and  $C_{18}H_{14}O_4$ , from the oxidation of methylcoumaranones (FRIES and FINCK), 1909, A., i, 44.
- $C_{18}H_{16}O$ , from the action of magnesium ethyl bromide on anthraquinone (CLARKE), 1908, A., i, 331.
- $C_{18}H_{16}O_6$ , from *p*-benzoquinone and catechol (SIEGMUND), 1909, A., i, 109.
- $C_{18}H_{16}O_6$ , from 3-hydroxymethyl-fluorone (KEHRMANN and JONES), 1910, A., i, 409.
- Substance.**  $C_{18}H_{16}N_2$ , from phenylaceto-nitrile, quinoline, methyl sulphate and sodium ethoxide (KAUFMANN), 1912, A., i, 1017.
- $C_{18}H_{16}S$ , from the action of sulphur on resin oil (SCHULTZE), 1908, A., i, 356.
- $C_{18}H_{18}O_5$ , from glaucophanic acid methyl ester (LIEBERMANN), 1906, A., ii, 556.
- $C_{18}H_{18}N_4$ , from methylanilinoaceto-nitrile and cyanogen bromide (v. BRAUN), 1908, A., i, 625.
- $C_{18}H_{20}O_3$ , from phenylecyanomethyl-enecampbor and sulphuric acid (FORSTER and WITHERS), 1912, T., 1338.
- $C_{18}H_{20}O_4$ , from oxidation of laudano-sine (PYMAN), 1909, T., 1269.
- $C_{18}H_{20}O_9$ , from isogalloflavin tri-methyl ether (HERZIG, ERDÖS, and RUZICKA), 1910, A., i, 676.
- $C_{18}H_{22}O_5$ , from the expressed oil of nutmeg (POWER and SALWAY), 1908, T., 1655; P., 198.
- $C_{18}H_{24}O_4$ , from acenaphthenequinone and ethyl acetoacetate (RECCHI), 1903, A., i, 261.
- $C_{18}H_{26}O$ , from cyclohexanone and potas-ium hydroxide (WALLACH and BEHNKE), 1909, A., i, 813.
- $C_{18}H_{28}O$ , from  $\psi$ -euphorbone (TSCHIRCH and LEUCHTENBERGER), 1908, A., i, 196.
- $C_{18}H_{32}O_2$ , from lichesteric acid (BÖHME), 1903, A., i, 316.
- $C_{18}H_{32}O_2$ , analogue of stearolic acid, from petroselic acid (VONGERICHTEN and KÖHLER), 1909, A., i, 454.
- $C_{18}H_{36}O$ , from jalap (POWER and ROGERSON), 1909, A., i, 819.
- $C_{18}H_4O_6Br_8$ , and its acyl derivatives, from tetrabromo- $\alpha$ -benzoquinone (JACKSON and CARLTON), 1905, A., i, 908.
- $C_{18}H_4O_6Br_{14}$ , from the "urucuri" fruit (FRANK and GNÄDINGER), 1911, A., ii, 647.
- $C_{18}H_{10}OS$ , from phenanthraquinone and thiophen (OSTER), 1904, A., i, 915.
- $C_{18}H_{11}O_7N$ , from ester,  $C_{20}H_{13}O_6N$  (WILLGERODT and MAFFEZZOLI), 1910, A., i, 679.
- $C_{18}H_{12}O_2S_3$ , from  $C_9H_8OS_2$ , and am-monium persulphate (KELBER) 1910, A., i, 391.
- $C_{18}H_{12}O_6N_2$ , from oxalyldiacetophen-one and nitrous fumes (WIDMAN and VIRGIN), 1909, A., i, 656.

**Substance,  $C_{18}H_{13}ON$** , from 7-hydroxy-1:2-phenonaphtharidine (BAEZNER and GARDIOL), 1906, A., i, 887.

$C_{18}H_{13}O_2Br_3$ , from tetrabromo-3:4-dimethoxyvinylphenanthrene (PSCHORR, JAECKEL, and FECHT), 1903, A., i, 195.

$C_{18}H_{13}O_3N$ , from 1-hydroxy-2-naphthaldehyde and anthranilic acid (BEZDZIK and FRIEDLÄNDER), 1909, A., i, 416.

$C_{18}H_{14}O_3N_2$ , and its chloride, from 4-acetylamino- $\beta$ -naphthaquinone and  $\alpha$ -aminophenol (KEHRMANN, DE GOTTRAU, and LEEMANN), 1907, A., i, 555.

$C_{18}H_{14}O_3N_4$ , from  $\beta$ -naphthol and 2:3:5-trinitro-4-acetylaminophenol (MELDOLA and HAY), 1908, P., 211.

$C_{18}H_{15}ON$ , from 2-methylquinoline methiodide and benzoyl chloride (VONGERICHTEN and ROTTA), 1911, A., i, 677.

$C_{18}H_{15}O_3N$ , from thalline and phthalic anhydride (RENZ and HOFFMANN), 1904, A., i, 610.

$C_{18}H_{15}O_4N$ , from chloroxylonine and hydriodic acid (AULD), 1909, T., 967.

$C_{18}H_{16}ON_2$ , from oxidation of 2-methylindole (PLANCHER and COLACICCHI), 1911, A., i, 566.

$C_{18}H_{16}OS$ , from 1-ke-to-2:6-diphenyl-4-thiophen-3:5-dithiol (APITZSCH and METZGER), 1904, A., i, 510.

$C_{18}H_{16}O_2N_2$ , from isobenzylglyoxalidone and sodium hydroxide (FINGER and ZEH), 1910, A., i, 591.

$C_{18}H_{16}O_3N_2$ , from the action of potassium hypochlorite on cinnamamide (WEERMAN), 1907, A., i, 132.

$C_{18}H_{16}O_2N_2$ , from indigotin and magnesium ethyl bromide, and its diethyl derivative (SACHS and KANTOROWICZ), 1909, A., i, 425.

$C_{18}H_{16}O_5N_4$ , from action of phenylhydrazine on oxidation products of mucic acid (FERRABOSCHI), 1909, T., 1249.

$C_{18}H_{17}ON_3$  (two), from ethyl  $\alpha$ -cyanopropionate and benzaldehyde (BEC-CARI), 1904, A., i, 62.

$C_{18}H_{17}O_2N_5$ , from the monosemicarbazone of  $\alpha$ -methoxyphenyltriketobutane and phenylenediamine (SACHS and HEROLD), 1907, A., i, 629.

$C_{18}H_{17}O_{11}N$ , from tannin, ethyl carbamate, and formaldehyde (VOSWIN-KEL), 1905, A., i, 805.

**Substance,  $C_{18}H_{18}O_2N_2$** , from aniline and 6-chloro-3-methyl- $\alpha$ -pyrone (THOLE and THORPE), 1911, T., 2225.

$C_{18}H_{18}O_2N_4$ , from chloralurethane (DIELS and GUKASSIANZ), 1911, A., i, 24.

$C_{18}H_{18}O_1N_2$ , from oxidation of substance,  $C_{18}H_{16}O_2N_2$ , from indigotin and magnesium ethyl bromide (SACHS and KANTOROWICZ), 1909, A., i, 425.

$C_{18}H_{18}N_3I$ , from the action of iodine on benzaldehydophenylhydrazine in pyridine solution (ORTOLEVA), 1904, A., i, 99.

$C_{18}H_{19}O_3N$ , from ethyleugenol and nitrosobenzene (ANGELI, ALESSANDRI and PEGNA), 1910, A., i, 553.

$C_{18}H_{21}O_2N$ , from phenylecyanomethylenecamphor and sodium hydroxide (FORSTER and WITHERS), 1912, T., 1338.

$C_{18}H_{21}O_3N$ , EtOH, and its anhydride, from phenylecyanomethylene-camphor and hydrogen peroxide (FORSTER and WITHERS), 1912, T., 1339.

$C_{18}H_{22}O_2N_2$ , from acetone and phenylhydroxylamine (BECKMANN and SCHEIBER), 1907, A., i, 829.

$C_{18}H_{22}O_2N_4$ , from catechol and phenylhydrazine (CIUSA and BERNARDI), 1909, A., i, 676.

$C_{18}H_{22}O_4N_2$ , from hæmopyrrolecarboxylic acid (PILOTY), 1909, A., i, 540.

$C_{18}H_{22}O_4N_2$  (?), from hæmopyrrolecarboxylic acid (PILOTY), 1909, A., i, 540.

$C_{18}H_{24}O_4N_4$ , from hexamethylenetetramine and catechol (GRISHKEWITSCH-TROCHIMOWSKY), 1910, A., i, 108.

$C_{18}H_{29}OCl_3$ , from the compound,  $C_9H_{15}OCl$ , and hydrogen chloride (WALLACH and HEYER), 1908, A., i, 425.

$C_{18}H_{36}O_7S$ , from ricinoleic acid and sulphuric acid (GRÜN and WOLDENBERG), 1909, A., i, 284.

$C_{18}H_{13}O_2N_2Br_2$ , from 5:7-dibromo-isatin and 2-methylquinoline (KOHN and KLEIN), 1912, A., i, 800.

$C_{18}H_{15}ON_2Cl$ , from diphenylcarbamyl chloride and pyridine, salts of (v. MEYER and NICOLAUS), 1911, A., i, 121.

$C_{18}H_{17}O_6N_4Cl$ , from the action of nickel on carbazole (PIAIOA and CHIAVES), 1908, A., i, 105.

**Substance.**  $C_{18}H_{19}ON_2Br$ , from *p*-bromophenyl- $\omega$ -bromoamylcyanamide (v. BRAUN), 1907, A., i, 961.

$C_{18}H_{21}O_3N_2Br$ , from the action of *p*-bromophenylhydrazine on camphoroxalic acid (TINGLE and ROBINSON), 1906, A., i, 904.

$C_{18}H_{24}O_4NNa$ , from sodium amyl-oxide and *p*-ethoxyphenyleitraconimide (PIUTTI), 1907, A., i, 313.

$C_{19}H_{10}O_6$ , from the action of phosphorus pentachloride on the tri-lactone,  $C_{19}H_{12}O_7$  (GABRIEL), 1907, A., i, 1043.

$C_{19}H_{12}O_4$ , from 3-phenylpyrazoisoumarazone and resorcinol (MICHAELIS and LEO), 1910, A., i, 516.

$C_{19}H_{14}O_5$ , from 3-methylpyrazoisoumarazone and resorcinol (MICHAELIS and LEO), 1910, A., i, 516.

$C_{19}H_{16}O_2$  and  $C_{19}H_{18}O_3$ , from 1:4:5-trihydroxy-4:5-diphenyl-1:3-dimethylcyclopentan-2-one (JAPP and MICHIE), 1903, T., 304.

$C_{19}H_{17}N_3$ , from paramagenta (v. BAEYER and VILLIGER), 1904, A., i, 454.

$(C_{19}H_{18}O_3)_x$ , from dimethylthebaine-methine methiodide (KNORR and PSCHORR), 1905, A., i, 814.

$C_{19}H_{20}O_5$ , and its dibenzoyl derivative, from guaiacum resin (RICHTER), 1906, A., i, 442.

$C_{19}H_{22}N_2$ , and its salts, from dinitrophenylpyridinium chloride and methylaniline (ZINCKE and WÜRKER), 1905, A., i, 241.

$C_{19}H_{24}O_2$ , and its tetrabromo-derivative, from *m*-xylenol, formaldehyde, and sodium hydroxide (AUWERS), 1907, A., i, 612.

$C_{19}H_{28}O_{10}$ , from biliary acids (PREGL), 1910, A., i, 321.

$C_{19}H_{13}O_6N$ , from the action of potassium cyanide on  $\omega$ -bromoacetophenone-*o*-carboxylic acid (GABRIEL), 1907, A., i, 216.

$C_{19}H_{14}O_7N_2$ , from 3:5-dinitro-4-hydroxybenzoic acid and acenaphthene (MORGENSTERN), 1910, A., i, 482.

$C_{19}H_{15}ON$ , from oxidation of  $\beta$ -phenyl- $\beta$ -diphenylmethylhydroxylamine (ANGELI, ALESSANDRI, and AIAZZO-MANCINI), 1911, A., i, 544.

$C_{19}H_{16}O_2N_3$ , from 3-amino-3-methyl-4-quinazoline, nitrous acid, and  $\beta$ -naphthol (BOGERT and GORTNER), 1909, A., i, 679.

$C_{19}H_{16}O_2N_4$ , from indoxyllic acid and nitrosoantipyrine (BECHHOLD), 1904, A., i, 200.

**Substance.**  $C_{19}H_{16}O_2Cl_2$ , from 2:5-dihydroxytriphenylcarbinol (v. BAEYER, AICKELIN, DIEHL, HALLENSLEBEN, and HESS), 1910, A., i, 249.

$C_{19}H_{16}O_3N_2$ , from *o*-amino-*m*-cresol and 4-acetylamino- $\beta$ -naphthaquinone (KEHRMANN, DE GOTTRAU, and LEEMANN), 1907, A., i, 555.

$C_{19}H_{17}ON_3$ , from cinnamaldehyde and 4-amino-1-phenyl-3-methyl-5-pyrazolone (HEIDUSCHKA and ROTHACKER), 1912, A., i, 52.

$C_{19}H_{17}O_2N$ , from formaldehyde and 2:8-dimethylquinoline (HOFFMANN), 1906, A., i, 41.

$C_{19}H_{18}O_2N_2$ , from *p*-benzoquinone and diamindiphenylmethane (SIEGMUND), 1910, A., i, 749.

$C_{19}H_{18}O_2N_2$ , from indigotin and magnesium propyl bromide (SACHS and KANTOROWICZ), 1909, A., i, 425.

$C_{19}H_{18}O_2Cl_4$ , from the benzene solution of dianisylidene and phosphorus pentachloride (STRAUS and ECKER), 1906, A., i, 861.

$C_{19}H_{19}ON$ , from 2:3:3:5-tetramethylindolenine, benzoyl chloride, and sodium hydroxide (PLANCHER and CARRASCO), 1909, A., i, 959.

$C_{19}H_{19}O_3N_3$ , from 3-nitrocumaldehyde and phenylmethylpyrazolone (PIZZUTI), 1911, A., i, 62.

$C_{19}H_{19}O_3N_3$ , from the action of ammonia on ethyl or methyl diphenylpiperidonedicarboxylate (TSONEFF), 1912, A., i, 580.

$C_{19}H_{19}O_6N$ , and its hydrochloride, from cotarnine and catechualdehyde (RENZ and HOFFMANN), 1904, A., i, 611.

$C_{19}H_{20}ON_2$ , from the action of ethyl pyruvate on *p*-toluidine (SIMON), 1908, A., i, 738.

$C_{19}H_{20}O_3N_2$ , from diphenylcarbamide, ethyl acetoacetate, and ether (KIESSLING), 1906, A., i, 946.

$C_{19}H_{20}N_2Br_2$ , and its salts, from dinitrophenylpyridinium chloride and *p*-bromomethylaniline (ZINCKE and WÜRKER), 1905, A., i, 242.

$C_{19}H_{21}O_6N$ , from the action of ozone on thebaine (RIEDEL), 1908, A., i, 1006.

$C_{19}H_{22}O_2N_2$ , from the action of pyruvic acid on *p*-toluidine (SIMON), 1908, A., i, 687.

$C_{19}H_{23}O_8N_3$ , from xanthophanic acid ethyl ether and semicarbazide hydrochloride (LIEBERMANN), 1906, A., i, 557.



**Substance**,  $C_{15}H_{24}O_4N_2$ , from camphor-oxalic acid and benzamidine (TINGLE and HOFFMANN), 1905, A., i, 800.

$C_{19}H_{24}O_6N_6$ , from asparagine (SASAKI), 1907, A., i, 776.

$C_{19}H_{39}O_2N_3$ , from the decomposition of oleic acid ozonide (MOLINARI and BAROSI), 1908, A., i, 850.

$C_{19}H_{19}N_2ClHg$ , from 3-mercury-*p*-toluidine and dinitrophenylpyridinium chloride (REITZENSTEIN and STAMM), 1910, A., i, 348.

$C_{20}H_{11}O_3$ , obtained in the preparation of 2:3-dihydroxynaphthalene (NEIL), 1906, A., i, 356.

$C_{20}H_{12}O_3$ , from the oxidation of 3:5-dihydroxytritanolactone (v. LIEBIG), 1905, A., i, 783.

$C_{20}H_{12}O_3$ , from the oxidation of  $\beta\beta$ -dinaphthol (BÜNZLY and DECKER), 1905, A., i, 884.

$C_{20}H_{12}O_4$ , from *p*-benzoquinone and 1:2-dihydroxynaphthalene (SIEGMUND), 1909, A., i, 109.

$C_{20}H_{14}O_5$ , and  $C_{20}H_{16}O_6$ , and their phenylhydrazones and semicarbazones, from  $\alpha$ -phenylbutane- $\alpha\beta\gamma$ -trione and piperidine (SACHS and WOLFF), 1903, A., i, 793.

$C_{20}H_{17}N_5$ , from *N*-hydroxydioxindole and phenylhydrazine (HELLER and SÖLLING), 1909, A., i, 184.

$C_{20}H_{18}O$ , from the hydrolysis of the substance,  $C_{23}H_{22}O_3$  (VORLÄNDER and STAUDINGER), 1906, A., i, 366.

$C_{20}H_{18}O_2$ , from the interaction of benzyl chloride and resorcinol (BAKUNIN and ALFANO), 1907, A., i, 915.

$C_{20}H_{18}O_3$ , and its acetates, bromoderivatives, and hydrazones, from glaucophanic acid methyl ether (LIEBERMANN and TRUCHSASS), 1907, A., i, 890.

$C_{20}H_{18}N_2$ , from 2-methylindole, ethyl acetate, and sodium ethoxide (ANGELI and MARCHETTI), 1908, A., i, 208.

$C_{20}H_{19}N$ , and its salts, from 4-methylquinoline and cinnamaldehyde (LOEW), 1903, A., i, 578.

$C_{20}H_{20}O_5$ , and its acetyl, methyl, and benzoyl derivatives, from papaverinium methiodide (DECKER and DUNANT), 1908, A., i, 206.

$C_{20}H_{22}O_3$ , from  $\beta$ -phenyl- $\beta$ -2-cyclopentanonylpropionophenone, hydroiodic acid and phosphorus (GEORGI and VOLLAND), 1912, A., i, 781.

$C_{20}H_{22}O_3$ , from Chinese anise oil (TARDY), 1903, A., i, 46.

**Substance**,  $C_{20}H_{22}O_5$ , from methyl chloroformate and ostruthin (HERZOG and KROHN), 1910, A., i, 125.

$C_{20}H_{22}O_5$ , and its bromophenylhydrazine, from xanthophanic acid ethyl ether (LIEBERMANN), 1906, A., i, 556.

$C_{20}H_{22}O_6$ , from dihydroflavaspidyloxanthin (BOEHM), 1904, A., i, 407.

$C_{20}H_{22}N_4$ , from ethylanilinoacetonitrile and cyanogen bromide (v. BRAUN), 1908, A., i, 625.

$C_{20}H_{22}N_4$ , and its hydrochloride, from the action of magnesium phenyl bromide on ethoxy- or methoxy-caffeine (SCHULZE), 1907, A., i, 546.

$C_{20}H_{22}O_2$ , from 2-hydroxy-4-methylphenyldimethylcarbinol (FRIES and FICKEWIRTH), 1908, A., i, 824.

$C_{20}H_{30}O$ , from camphenilanaldehyde (FROMM, HILDEBRANDT, and CLEMENS), 1903, A., i, 429.

$C_{20}H_{30}O_5$ , from bryony root (POWER and MOORE), 1911, T., 940; P., 118.

$C_{20}H_{31}O_8$ , from *Adenium houghtii* (PERROT and LEPRINCE), 1910, A., ii, 151.

$C_{20}H_{32}O_2$ , from the condensation of camphor and  $C_{23}H_{28}O_2$  (MALMGREN), 1903, A., i, 103.

$C_{20}H_{31}O$ , from the seeds of *Bruccea sumatrana* (POWER and LEES), 1903, A., i, 772.

$C_{20}H_{38}O_2$ , from the oxidation of phytol (WILLSTÄTTER and HOCHNER), 1907, A., i, 786.

$C_{20}H_{10}OS_2$ , from phenanthraquinone and thiophthen (OSTER), 1904, A., i, 915.

$C_{20}H_{12}O_2N_4$ , from the diazotised chloride from 7-amino-2-naphthol (KAUFLER and KARRER), 1907, A., i, 796.

$C_{20}H_{15}O_4N_3$ , from *o*-aminophthalanil (RUPE and THIESS), 1910, A., i, 73.

$C_{20}H_{13}O_1N_5$ , from the action of amyl nitrite on phenyl-*m*-nitrobenzylidenehydrazine (BAMBERGER and PEMSEL), 1903, A., i, 285.

$C_{20}H_{14}N_2S_2$ , from diazotriphenylpyrrole (ANGELICO and LABISI), 1910, A., i, 445.

$C_{20}H_{15}O_4Br_2$ , from the flowers of *Nyctanthes arborescens* HILL and SIKKAR), 1907, T., 1505; P., 213.

- Substance**,  $C_{20}H_{16}O_4Cl_2$ , from oxalyl chloride and cinnamaldehyde (STAUDINGER), 1909, A., i, 906.
- $C_{20}H_{17}ON$ , from oxidation of  $\beta$ -benzyl- $\beta$ -diphenylmethylhydroxylamine (ANGELI, ALESSANDRI, and AIAZZO-MANCINI), 1911, A., i, 545.
- $C_{20}H_{17}ON$ , and its benzoyl derivative and additive salts, from the reduction of 6-phenylpyrophthalone (GAEBELÉ), 1904, A., i, 89.
- $C_{20}H_{18}ON_2$ , from the acid,  $C_{21}H_{18}O_3N_2$  (KNOEVENAGEL and HEEREN), 1903, A., i, 660.
- $C_{20}H_{19}O_2N$ , from the action of formaldehyde on  $\beta$ -naphtholbenzylamine (BETTI and FOÀ), 1903, A., i, 511.
- $C_{20}H_{20}ON_4$ , and its additive salts, from the action of magnesium phenyl bromide on caffeine (SCHULZE), 1907, A., i, 545.
- $C_{20}H_{20}O_2N_2$ , from indigotin and magnesium isobutyl bromide (SACHS and KANTOROWICZ), 1909, A., i, 425.
- $C_{20}H_{21}O_2N_3$ , from lysine (v. BRAUN), 1909, A., i, 230.
- $C_{20}H_{21}O_3Cl_3$  (two), from  $\beta\beta$ -dichloro- $\alpha\gamma$ -dianisylidenepropene and methyl alcohol (STRAUS, LUTZ, and HÜSSY), 1910, A., i, 564.
- $C_{20}H_{21}O_4N$ , from the alkaloid,  $C_{20}H_{17}O_4N$ , from Chinese *Corydalis* tubers (MAKOSHI), 1908, A., i, 825.
- $C_{20}H_{21}O_{11}N_3$ , from methyl  $\alpha\gamma$ -dicyanopropane- $\alpha\beta\gamma$ -tetracarboxylate (SCHMITT), 1907, A., i, 1007.
- $C_{20}H_{22}O_2N_2 \cdot \frac{1}{2}H_2O$ , from quinoline and methyl salicylate (SPADY), 1908, A., i, 915.
- $C_{20}H_{22}O_5N_3$ , from 1:3-dioximino-2-cyclohexanone, sodium ethoxide, and benzoyl chloride (BORSCHÉ), 1910, A., i, 178.
- $C_{20}H_{24}O_3N_2$ , from quinine (WOLFFENSTEIN and WOLFF), 1908, A., i, 283.
- $C_{20}H_{24}O_7N_2$ , from condensation of ethyl 1-amino-2:5-dimethylpyrrole-3:4-dicarboxylate with dehydracetic acid (BÜLOW and FILCHNER), 1909, A., i, 95.
- $C_{20}H_{26}O_2N_2$ , from acetone and *m*- or *p*-tolylhydroxylamine (BECKMANN and SCHEIBER), 1907, A., i, 829.
- $C_{20}H_{26}O_4N_4$ , from silver salt of pernitrosocamphor (ANGELI, CASTELLANA, and FERRERO), 1909, A., i, 739.
- Substance**,  $C_{20}H_{28}O_2Hg_3$ , from action of potassium hydroxide on  $C_{30}H_{12}O_3I_2Hg_1$  (MARSH and STRUTHERS), 1909, T., 1787.
- $C_{20}H_{28}NCl$ , from  $\gamma$ -phenylpropyl chloride and dimethylamine (v. BRAUN), 1911, A., i, 35.
- $C_{20}H_{28}NBr$ , from  $\gamma$ -phenylpropyl bromide and dimethylamine (v. BRAUN), 1911, A., i, 35.
- $C_{20}H_{29}O_2N_3$ , from sodium salt of substance ( $C_{10}H_{15}O_2N_2$ )<sub>2</sub>, and picrate of (ANGELI, CASTELLANA, and FERRERO), 1909, A., i, 739.
- $C_{20}H_{30}O_4N_4$ , from pernitrosocamphor, diethyl derivative, and sodium salt of (ANGELI, CASTELLANA, and FERRERO), 1909, A., i, 739.
- $C_{20}H_{30}N_2I_2$ , from diphenyldiethylethylenediamine and methyl sulphate (WEDEKIND and MEYER), 1909, A., i, 187.
- $C_{20}H_{31}O_4N_3$ , and its benzoyl derivative, from terpinene nitrosite (WALLACH and BOEDECKER), 1907, A., i, 65.
- $C_{20}H_{32}O_4N_2$ , from methyl alcohol and the nitroso-compound from aminolauronic anhydride (NOYES and TAVEAU), 1904, A., i, 808.
- $C_{20}H_{36}O_{19}N_{12}$ , from glyoxal and carbamide (BEHREND, MEYER, and RUSCHE), 1905, A., i, 419.
- $C_{20}H_{12}O_6NBr$ , from 2-(6-nitropiperonyl)-naphthylflavone and bromine (TORREY and CARDARELLI), 1911, A., i, 68.
- $C_{20}H_{12}O_8N_4S_4$ , from 3-cyano-2:4-diketeto-5-benzylidenetetrahydrothiophen and barium hydroxide (BENARY), 1910, A., i, 580.
- $C_{20}H_{19}O_4N_7S \cdot 2H_2O$ , from acetylguanamine acetate and orange II. (RADLBERGER), 1910, A., i, 761.
- $C_{20}H_{23}O_2NI$ , from the action of methyl iodide on the sodium derivative of 5-hydroxy-1-phenyl-4-methyltriazole (DIMROTH and LETSCHE), 1905, A., i, 100.
- $C_{20}H_{25}O_3NS$ , from  $\psi$ -codeinone and ethyl mercaptan (PSCHORR and KRECH), 1910, A., i, 423.
- $C_{20}H_{26}O_3NI$ , from methyl iodide and a betaine from 8-ethylthiocodide (PSCHORR and KRECH), 1910, A., i, 423.
- $C_{21}H_{12}N_4$ , and its trinitro-derivative, from the action of copper powder on indazole (JACOBSON and HUBER), 1908, A., i, 299.

**Substance,  $C_{21}H_{16}O_4$** , from the hydrolysis of the triacetyl derivative of 3:6:3':6'-tetrahydroxytriphenylmethane (SCHORIGIN), 1907, A., i, 1032.

$C_{21}H_{20}O_2$ , from condensation of salicylaldehyde and dipropyl ketone (DECKER and v. FELLEBERG), 1909, A., i, 117.

$C_{21}H_{20}O_4$ , and  $C_{21}H_{18}O_4Br_2$ , from  $C_{21}H_{24}O_4$  and its tetrabromo-derivative (FABINYI and SZÉKI), 1905, A., i, 591.

$C_{21}H_{22}O_3$ , from 4:7-dimethylcoumarin (FRIES and KLOSTERMANN), 1906, A., i, 276.

$C_{21}H_{24}O_4$ , and its tetra-acyl and tetrabromo-derivatives, from catechol and acetone (FABINYI and SZÉKI), 1905, A., i, 591.

$C_{21}H_{24}O_6$ , and its hexa-acyl and dibromo-derivatives, from pyrogallol and acetone (FABINYI and SZÉKI), 1905, A., i, 888.

$C_{21}H_{28}O_6$ , and its methyl ether and anhydride, from 6-hydroxypentaketooctamethyltetrahydrophenylphenylidenemethane (HERZIG, WENZEL, and REISMANN), 1906, A., i, 95.

$(C_{21}H_{30}O)_5$ , from oil of clove stalks (DEUSSEN and LOESCHE), 1909, A., i, 172.

$C_{21}H_{34}O_2$ , and  $C_{22}H_{36}O_2$ , from *Scleroderma aurantium* (BAMBERGER and LANDSIEDL), 1907, A., ii, 45.

$C_{21}H_{14}O_3N_2$ , from phthalimide and anthranilic acid (KÖNIG), 1904, A., i, 297.

$C_{21}H_{16}ON_4$ , from 4-keto-1:3-diphenylpyrazolone and *o*-phenylenediamine (SACHS and BECHERESCU), 1903, A., i, 529.

$C_{21}H_{16}O_2N_2$ , from benzaldehyde-phenylhydrazone and ethyl acetoacetate (MINUNNI), 1906, A., i, 114.

$C_{21}H_{17}ON$ , from 4-hydroxy-1:2:3-triphenyl-5-pyrrolidone (BORSCHKE), 1909, A., i, 956.

$C_{21}H_{17}ON$ , from decomposition of phenylnitromethane (HEIM), 1911, A., i, 28.

$C_{21}H_{17}ON_5$ , and  $C_{21}H_{18}ON_5Cl$ , from the action of phenylhydrazine on the lactone of dichloroacetyl-anthranilic acid (GÄRTNER), 1905, A., i, 130.

$C_{21}H_{17}N_3S_2$ , from the action of thionyl chloride on thiobenzamide (TOCHERMANN), 1905, A., i, 596.

**Substance,  $C_{21}H_{18}OS$** , from benzyl sulphoxide and benzaldehyde (FROMM and ACHERT), 1903, A., i, 341.

$C_{21}H_{18}N_2S$ , from benzidine and dibenzyl cyanoiminodithiocarbonate (FROMM and v. GÖNCZ), 1907, A., i, 873.

$C_{21}H_{19}O_2N_3$ , from *p*-nitrosotoluene and sodium hydroxide (REISSERT), 1909, A., i, 436.

$C_{21}H_{19}O_8N$ , from the substance,  $C_{13}H_{14}O_4N_1$  (ORTOLEVA and VASSALLO), 1904, A., i, 645.

$C_{21}H_{20}ON_2$ , from ethyl 1-methyl-3-cyclohexanone-4-oxalate and aniline (KÖTZ and HESSE), 1906, A., i, 88.

$C_{21}H_{21}O_6N_3$ , from brucine and nitric acid (LEUCHS and ANDERSON), 1911, A., i, 746.

$C_{21}H_{22}ON_4$ , and its additive salts, from the action of magnesium phenyl bromide on 8-methylcaffeine (SCHULZE), 1907, A., i, 546.

$C_{21}H_{22}O_2N_2$ , from indigotin and magnesium isoamyl bromide (SACHS and KANTOROWICZ), 1909, A., i, 425.

$C_{21}H_{24}O_6N_2$ , from brucinolic acid and sodium hydroxide (LEUCHS and WEBER), 1909, A., i, 954; (LEUCHS and PEIRCE), 1912, A., i, 899.

$C_{21}H_{27}O_2NS$ , betaine of substance from  $\beta$ -ethylthiocodide (PSCHORR and KRECH), 1910, A., i, 422.

$C_{21}H_{29}O_2NS$ , from  $\beta$ -ethylthiocodide (PSCHORR and KRECH), 1910, A., i, 422.

$C_{21}H_{29}O_2NS_2$ , from  $\beta$ -methylthiocodide and ethyl mercaptan (PSCHORR and KRECH), 1910, A., i, 422.

$C_{21}H_{12}O_{19}S_3Na_3As$ , from trisodium arsenate and sulphosalicylic acid (BARTHE), 1910, A., i, 262.

$C_{21}H_{21}O_4N_2ClHg_2$ , from dinitrophenylpyridinium chloride and *p*-aminophenyl mercuriacetate (REITZENSTEIN and STAMM), 1910, A., i, 348.

$C_{21}H_{28}O_2NIS$ , from methyl iodide and  $\beta$ -ethylthiocodide, and its derivatives (PSCHORR and KRECH), 1910, A., i, 422.

$C_{22}H_{15}N_3$ , from diazotriphenylpyrolic and sulphuric acid, and its ethyl derivative (GOLDSCHMIEDT), 1909, A., i, 122.

$C_{22}H_{16}O$ , from the distillation of the compound,  $C_{24}H_{16}O_3$  (BRESLAUER and PICET), 1907, A., i, 915.



- Substance,  $C_{22}H_{18}O$ , from  $\alpha\beta\gamma$ -tetraphenylbutyrolactone (REIMER and REYNOLDS), 1908, A., i, 989.
- $C_{22}H_{18}O_4$ , from the reduction of 2:4(or 2:6)-dihydroxydeoxybenzoin (FINZI), 1905, A., i, 907.
- $C_{22}H_{18}O_5$ , from cyclohexanone and phthalaldehydic acid (MORGENSTERN), 1909, A., i, 804.
- $C_{22}H_{18}O_5$ , from the condensation of phenanthraquinone with ethyl acetoacetate (RICHARDS), 1910, T., 1460; P., 195.
- $C_{22}H_{18}N_4$ , from 2:4:5-triphenylguanilamide and acetic anhydride (LEY and MÜLLER), 1907, A., i, 730.
- $C_{22}H_{22}O_3$ , from condensation of methyl ethyl ketone and salicylaldehyde (DECKER and v. FELLEBERG), 1909, A., i, 116.
- $C_{22}H_{22}O_6$ , from *p*-benzoquinone and methyl *p*-aminobenzoate (SIEGMUND), 1910, A., i, 749.
- $C_{22}H_{24}O_2$ , from 4:7-dimethyleoumarin, and its bromine derivative (FRIES and VOLK), 1911, A., i, 205.
- $C_{22}H_{24}O_2$ , from 1-[2:5-dimethylhydrocoumarinyl]-2:5-dimethylhydrocoumarone (FRIES and KLOSTERMANN), 1908, A., i, 822.
- $C_{22}H_{26}O$ , from the oxidation of dimethylstyrylcarbinol (KÖHLER and HERITAGE), 1905, A., i, 207.
- $C_{22}H_{26}O_5$ , from dimethylphloroglucinolaldehyde, potassium hydroxide, and methyl iodide (HERZIG, WENZEL, and REISMANN), 1906, A., i, 95.
- $C_{22}H_{28}N$ , from oxidation of tetramethyldiaminodiphenylcyclohexylenemethane (LEMOULT), 1912, A., i, 791.
- $C_{22}H_{30}O_9$ , from *Simaruba amara* (GILLING), 1908, A., ii, 527.
- $C_{22}H_{40}O_6$ , from acid from ricinoleic acid (CHONOWSKY), 1909, A., i, 761.
- $C_{22}H_{42}O_4$ , from the condensation product of methane and ethylene and oxygen (LOSANITSCH), 1908, A., ii, 33.
- $C_{22}H_{14}N_2S$ , from diketone,  $C_{22}H_{11}O_2N_2$  (ANGELICO), 1911, A., i, 1033.
- $C_{22}H_{15}O_4N$ , from  $\omega$ -amino-*op*-dihydroxyacetophenone (TUTIN), 1910, T., 2515.
- $C_{22}H_{16}O_2N_2$ , from indigotin and magnesium phenyl bromide, and its sulphate and diethyl derivative (SACHS and KANTOROWICZ), 1909, A., i, 425.
- Substance,  $C_{22}H_{17}O_2N$ , from triphenylcarbinol and cyanoacetic acid (FOSSE), 1906, A., i, 976.
- $C_{22}H_{18}O_4N_2$ , from oxidation of substance,  $C_{22}H_{16}O_2N_2$ , from indigotin and magnesium phenyl bromide (SACHS and KANTOROWICZ), 1909, A., i, 425.
- $C_{22}H_{18}O_7N_4$ , from prune and *m*-nitroaniline (GRANDMOUGIN and BODMER), 1907, A., i, 356.
- $C_{22}H_{19}O_2N$ , from benzoflavol (DUNSTAN and CLEAVERLEY), 1907, T., 1624; P., 206.
- $C_{22}H_{21}O_{13}N$ , from ethyl phloroglucinoldicarboxylate and nitric acid (LEUCHS and GESERICK), 1909, A., i, 107.
- $C_{22}H_{23}O_{11}N_3$ , from  $\alpha\gamma$ -dimethyl  $\beta\beta$ -diethyl  $\alpha\gamma$ -dicyanopropane- $\alpha\beta\gamma$ -tetracarboxylate (SCHMITT), 1907, A., i, 1007.
- $C_{22}H_{21}O_5N_2$ , isomeric, and their bromoderivatives, from ethyl acetoacetate and phenylhydroxylamine (SCHEIBER and WOLF), 1907, A., i, 1028.
- $C_{22}H_{25}ON_3$ , from quinoline and hydroxylamine (KAUFMANN and STRUBIN), 1911, A., i, 321.
- $C_{22}H_{25}O_2N$ , from dimethylketen and benzylidenebenzylamine (STAUDINGER, KLEVER, and KOBER), 1910, A., i, 588.
- $C_{22}H_{25}O_3N$ , from oxidation of  $\beta$ -isobutrylbenzylamino- $\beta$ -phenyl- $\alpha\alpha$ -dimethylpropionic acid (STAUDINGER, KLEVER, and KOBER), 1910, A., i, 587.
- $C_{22}H_{28}N_2S$ , from carvone hydrosulphide and hydrogen cyanide (STEELE), 1911, P., 240.
- $C_{22}H_{30}O_4S$ , from hydrolysis of the compound of hydrogen cyanide and carvone hydrosulphide (STEELE), 1911, P., 241.
- $C_{22}H_{31}O_{18}N$ , acetyl derivative of the product from nitration of cellulose (CRANE and JOYCE), 1910, A., i, 364.
- $C_{22}H_{36}O_1N_2$ , from ethyl alcohol and the nitroso-compound from aminolauronic anhydride (NOYES and TAVEAU), 1904, A., i, 807.
- $C_{22}H_{31}O_5N_4Cl$ , from isoquinoline and chloroacetic acid (HILDER), 1903, A., i, 116.
- $C_{22}H_{19}O_3N_1SNa$ , from 1-amino-2-naphthol-4-sulphonic acid, phenylhydrazine and sodium hydrogen sulphite (BUCHERER and SONNENBURG), 1910, A., i, 145.

**Substance,**  $C_{22}H_{21}O_8NS_2$ , from new-magenta-disulphone (SCHMIDLIN), 1907, A., i, 94.

$C_{23}H_{16}O_3$ , from the action of formaldehyde on  $\alpha$ -naphthol (BRESLAUER and PICTET), 1907, A., i, 915.

$C_{23}H_{18}O_2$ , from reduction of benzylidenedeoxybenzoin (THIELE and RUGGLI), 1912, A., i, 867.

$C_{23}H_{19}O_2$ , or  $C_{23}H_{20}O_2$ , from the action of magnesium *o*-tolyl bromide on xanthone (DECKER, v. FELLEBERG, and DINNEN), 1907, A., i, 1065.

$C_{23}H_{20}O_3$ , from reduction of benzylidenedeoxybenzoin (THIELE and RUGGLI), 1912, A., i, 867.

$C_{23}H_{20}O_3$ , from methyl cinnamate, magnesium phenyl bromide, and benzoyl chloride (KÖHLER and HERITAGE), 1905, A., i, 207.

$C_{23}H_{20}O_{10}$ , and its acetyl derivative, from the potassium derivative of rhein (OESTERLE and RIAT), 1910, A., i, 126.

$C_{23}H_{22}O_3$ , from cinnamylideneacetophenone and ethyl acetoacetate (VORLÄNDER and STAUDINGER), 1906, A., i, 366.

$C_{23}H_{22}N_2$ , from the action of light on quinaldine and acetone, and its salts (CAMICIAN and SILBER), 1911, A., i, 647.

$C_{23}H_{26}O_2$ , from the dehydration of diphenylcamphorylcarbinol (HALLER and BAUER), 1906, A., i, 441.

$C_{23}H_{28}O_2$ , from  $\alpha$ -bromocamphor, magnesium, and benzophenone (MALMGREN), 1903, A., i, 103.

$C_{23}H_{32}O_2$ , from benzophenone and isomyl ether (PATERNO and CHIEFFI), 1911, A., i, 66.

$C_{23}H_{32}N_2$ , from dimethylaniline and hexahydrobenzaldehyde (ZELINSKY and GUTT), 1907, A., i, 709.

$C_{23}H_{14}O_7N_2$ , from 3:5-dinitro-4-hydroxybenzoic acid and pyrene (MORGENSTERN), 1910, A., i, 482.

$C_{23}H_{16}ON_3$ , from 3-amino-2-methyl-4-quinazoline and benzil (BOGERT and BEAL), 1912, A., i, 395.

$C_{23}H_{18}ON_2$ , from benzophenone and 1-phenyl-3-methyl-5-pyrazolone (HEIDUSCHKA and ROTHACKER), 1912, A., i, 52.

$C_{23}H_{18}O_2N_2$ , from indigotin and magnesium benzyl chloride or magnesium *p*-tolyl bromide (SACHS and KANTOROWICZ), 1909, A., i, 425.

**Substance,**  $C_{23}H_{19}O_7N_3$ , from prune and *m*-aminobenzoic acid (GRANDMOUGIN and BODMER), 1907, A., i, 356.

$C_{23}H_{20}ON_4$ , from the monophenylhydrazones of *o*-methoxyphenyltriketobutane and phenylenediamine (SACHS and HEROLD), 1907, A., i, 629.

$C_{23}H_{23}O_3N$ , from benzylidenebenzoylacetone and ethyl  $\beta$ -aminocrotonate (KNOEVENAGEL, ERLER, and REINECKE), 1903, A., i, 652.

$C_{23}H_{24}O_4N_2$ , from phenylhydrazine and ethyl 3-phenyl-1-methylcyclohexene-5-one-2:4-dicarboxylate (KNOEVENAGEL and HEEREN), 1903, A., i, 660.

$C_{23}H_{30}N_2Br$ , and its platinumchloride, from the action of cyanogen bromide on 1-phenylpiperidine (v. BRAUN), 1907, A., i, 960.

$C_{23}H_{33}O_7N$ , from delpbocurarine (HEYL), 1903, A., i, 650.

$C_{23}H_{36}O_2Br_2$ , from the action of bromine on lactucol (SPERLING), 1904, A., i, 607.

$C_{23}H_{16}O_6N_4S_4$ , from the action of benzoyl chloride on sodium hyposulphite in presence of pyridine (BRINZ and MARX), 1907, A., i, 923.

$C_{23}H_{19}O_2NS$ , phenacyl derivative of  $C_{15}H_{15}ONS$  (KELBER), 1910, A., i, 391.

$C_{23}H_{23}ON_5S$ , from  $C_{15}H_{11}N_3SCl$  (BUSCH and SCHNEIDER), 1903, A., i, 534.

$C_{23}H_{27}O_4N_2Br$ , from brucine (MOSSLER), 1910, A., i, 275.

$C_{23}H_{30}O_4N_2Na$ , from sodium bornyl-oxide and *p*-ethoxyphenyleitraconimide (PIUTTI), 1907, A., i, 313.

$C_{24}H_{26}$ , from action of silent electric discharge on benzene (LOSANITSCH), 1910, A., i, 2.

$C_{24}H_{14}O_3$ , from naphthaldehydic acid and acenaphthenone (WIECHOWSKI), 1905, A., i, 709.

$C_{24}H_{14}O_4$ , from acenaphthenequinone, and its derivatives (KALLE & Co.), 1910, A., i, 752.

$C_{24}H_{16}O_3$ , from reduction of 5:12-dihydroxy-11-phenonaphthacenequinone, and its acetyl derivative (VOSWINCKEL and DE WEERTH), 1910, A., i, 50.

$C_{24}H_{18}O_5$ , from action of alkali on 6-acetoxy-6:11:(?)-trihydroxy-11-phenyldihydronaphthacenequinone, and its acetyl derivative (VOSWINCKEL), 1909, A., i, 167.

Substance,  $C_{24}H_{18}N_4$ , and its hydrochloride and polymeride, from the oxidation of azurine (WILLSTÄTTER and MOORE), 1907, A., i, 642.

$C_{24}H_{20}O_3$ , and its isomeride, from phenoxyacetone, benzaldehyde, and anisaldehyde (STOERMER and WELHN), 1903, A., i, 41.

$C_{24}H_{20}O_{10}$ , tetra-acetyl derivative of  $C_{16}H_{14}O_6$  obtained in the preparation of chloroacetocatechol (VOSWINCKEL), 1910, A., i, 43.

$C_{24}H_{20}N_6$ , from methylaniline- $\omega$ -sulphonic acid and methyl-*o*-toluidine- $\omega$ -sulphonic acid (AKTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION), 1909, A., i, 373.

$C_{24}H_{22}O$ , and its oxime and bromo-derivative, from the action of glacial acetic and sulphuric acids on  $\beta$ -benzyl- $\beta$ -styrylpropiophenone (BAUER and BREIT), 1906, A., i, 517.

$C_{24}H_{30}O_4$ , and its tetra-acetyl derivative, from catechol and methyl ethyl ketone (FABINYI and SZÉKI), 1905, A., i, 591.

$C_{24}H_{30}O_6$ , and its hexa-acetyl derivative, from pyrogallol and methyl ethyl ketone (FABINYI and SZÉKI), 1905, A., i, 889.

$C_{24}H_{32}O_4$ , from oxidation of elateric acid (MOORE), 1910, T., 1804; P., 215.

$C_{24}H_{32}O_6$ , from acenaphthenequinone and ethyl acetoacetate (RECCHI), 1903, A., i, 261.

$C_{24}H_{42}O_5$ , from hydrolysis and reduction of sodium taurocholate (PIETTRE), 1909, A., i, 586.

$C_{24}H_{44}O$ , from  $\beta$ -chicalban (TSCHIRCH and SCHERESCHESWSKI), 1905, A., i, 685.

$C_{24}H_{44}O_2$ , from the absorption of oxygen by the condensation product of ethylene (LOSANITSCH), 1908, A., i, 846; ii, 33.

$C_{24}H_8Cl_{13}$ , from the action of toluene on tetrachloro-*o*-benzoquinone (JACKSON and MACLAURIN), 1907, A., i, 857.

$C_{24}H_{14}O_4S_2$ , from thiophenoquinone and alcohol (POSNER), 1904, A., i, 1030.

$C_{24}H_{16}O_4N_2$ , from anthranoylanthranilic-*O*-anhydride and 1:2-naphthaquinone-4-sulphonic acid (SCHROETER and EISLER), 1909, A., i, 577.

$C_{24}H_{17}ON_3$ , and its leuco-base, from the oxidation of the substance,  $C_{24}H_{19}ON$  (WILLSTÄTTER and MOORE), 1907, A., i, 643.

Substance,  $C_{24}H_{17}ON_3$ , and its polymeride and leuco-base, from the oxidation of azurine (WILLSTÄTTER and MOORE), 1907, A., i, 643.

$C_{24}H_{18}ON_2$ , from the reduction of *o*-nitrobenzyl chloride in presence of 2:7-dihydroxynaphthalene (BAEZNER, GUEORGUEFF, and GARDIOL), 1906, A., i, 902.

$C_{24}H_{19}ON_3$ , from the oxidation of a mixture of *p*-amino- and *p*-hydroxydiphenylamine (WILLSTÄTTER and MOORE), 1907, A., i, 643.

$C_{24}H_{20}O_2N_2$ , from diphenylamine and hydrogen peroxide (ÜSCHAKOFF), 1906, A., i, 159.

$C_{24}H_{26}O_4N_2$ , from condensation of 3-keto-2-*p*-dimethylaminoanilcumarane and 2-coumaranone (FRIES and HASSELBACH), 1911, A., i, 151.

$C_{24}H_{21}OBr$ , from the action of glacial acetic and sulphuric acids on  $\beta$ -benzyl- $\beta$ -styryl-*p*-bromopropiophenone (BAUER and BREIT), 1906, A., i, 518.

$C_{24}H_{25}O_5N_3$ , from indigo-brown (PERKIN and BLOXAM), 1907, T., 284; P., 30.

$C_{24}H_{24}ON_2$ , from tetramethyldiaminotriphenylmethane-*o*-carboxylic acid (GUYOT and HALLER), 1910, A., i, 286.

$C_{24}H_{25}ON_3$ , from isatin and dimethylaniline (HALLER and GUYOT), 1907, A., i, 566.

$C_{24}H_{25}O_4N$ , and its acetyl derivative, from *o*-methoxybenzaldehyde and glycine (ERLENMEYER and BADE), 1905, A., i, 131.

$C_{24}H_{25}N_6Cl$ , from 2:4-dimethylpyrrole (MARCHLEWSKI and ROBEL), 1910, A., i, 206.

$C_{24}H_{26}O_5N_2$ , from the reduction of xanthoxalo-*m*-xylidil (RUHEMANN), 1906, T., 1852; P., 284.

$C_{24}H_{27}O_8N_5$ , from brucinonic acid semicarbazone and sodium amalgam (LEUCHS and WEBER), 1909, A., i, 254.

$C_{24}H_{30}O_4N_2$ , from the action of ethyl pyruvate on *p*-toluidine (SIMON), 1903, A., i, 739.

$C_{24}H_{30}O_5N_2$ , and  $C_{24}H_{30}O_6N_2$ , and its isomeride, from biscamphoformene-aminecarboxylic acid (TINGLE and ROBINSON), 1906, A., i, 903.

$C_{24}H_{30}O_{12}Cl_4$  (two), from ester,  $C_{30}H_{42}O_{16}$  (GUTHEIT and HARTMANN), 1910, A., i, 388, 389.



**Substance,**  $C_{24}H_{30}O_{12}Br_4$ , from ester,  $C_{30}H_{43}O_{16}$  (GUTHZET and HARTMANN), 1910, A., i, 388.

$C_{24}H_{31}O_6Br$ , from dibromoasarone (THOMS and BECKSTROEM), 1904, A., i, 409.

$C_{24}H_{34}O_2N_2$ , from quinine- $\beta$ -ethiodide and Grignard's reagent (FREUND and MEYER), 1910, A., i, 132.

$C_{24}H_{38}O_4N_2$ , from ethyl 1-methylcyclohexan-3-one-4-carboxylate and piperazine (KÖTZ and MERKEL), 1909, A., i, 158.

$C_{24}H_{10}ON_2Br_2$ , from 4-bromoacenaphthoquinone (GRAEBE and GUINSBURG), 1903, A., i, 408.

$C_{24}H_{26}O_4N_3S_2$ , from dinitrodiphenyl disulphide (FROMM and WITTMANN), 1908, A., i, 632.

$C_{24}H_{28}O_7N_{12}S_2$ , from biguanide sulphate and crystal ponceau (RADLEBERGER), 1910, A., i, 760.

$C_{25}H_{20}O_3$ , from ethyl phenylpropiolate, acetophenone, and sodium ethoxide (RUHEMANN), 1908, T., 435; P., 52.

$C_{25}H_{20}O_6$ , from the action of phenylpropiolyl chloride on ethyl sodiomalonate (RUHEMANN and MERRIMAN), 1905, T., 1395; P., 225.

$C_{25}H_{24}O_2$ , from the action of glacial acetic and sulphuric acids on  $\beta$ -benzyl- $\beta$ -styrylpropiofenone (BAUER and BREIT), 1906, A., i, 518.

$C_{25}H_{32}O_{10}$ , from ethyl acetonedicarboxylate and benzylidene-ethylamine (PETRENKO-KRITSCHENKO and HIRSCHBERG), 1909, A., i, 960.

$C_{25}H_{19}N_4Cl$ , from safranine and benzaldehyde (BALLS, HEWITT, and NEWMAN), 1912, T., 1848.

$C_{25}H_{24}O_4N_2$ , from 3:6-diacetylamino-9-phenylxanthonium chloride (KEHRMANN and DENGLE), 1910, A., i, 406.

$C_{25}H_{25}O_3N$ , from ethyl oxalacetate and benzylidene- $\beta$ -naphthylamine (SIMON and MAUGUIN), 1908, A., i, 296.

$C_{25}H_{27}O_3N_9$ , from the action of *p*-triazobenzaldehyde on camphoryl- $\psi$ -semicarbazide (FORSTER and JUDD), 1910, T., 261.

$C_{25}H_{32}O_2N_4$ , from acetylacetone and diphenylmethanedimethyldihydrazine (V. BRAUN), 1910, A., i, 524.

$C_{25}H_{16}O_4N_2Cl$ , benzoyl derivative of a red acid from methyl 5-chloroanthranilate and nitrosobenzene (FREUNDLER), 1910, A., i, 446.

**Substance,**  $C_{25}H_{19}ON_4Cl$ , from safranine and *p*-hydroxybenzaldehyde (BALLS, HEWITT, and NEWMAN), 1912, T., 1848.

$C_{25}H_{27}O_8NS$ , from 2:7-dihydroxynaphthylene-1:8-difurfurylideneimine and methyl sulphate, and its salts with acids (BESCHKE, RÖLLE, and STRUM), 1909, A., i, 963.

$C_{25}H_{28}O_4N_4S_2$ , from rongalite, aniline hydrochloride, and formaldehyde (BINZ and ISAAC), 1908, A., i, 941.

$C_{25}H_{22}O_6N_5ClHg_2$ , from dinitrophenylpyridinium chloride and *p*-aminophenyl mercuriacetate (REITZENSTEIN and STAMM), 1910, A., i, 348.

$C_{25}H_{22}O_6N_5ClHg_2$ , from *o*-aminophenylmercuric acetate and dinitrophenylpyridinium chloride (REITZENSTEIN and BONITSCH), 1912, A., i, 740.

$C_{26}H_{18}O_2$ , from diphenylnaphthylallene-carboxylic acid and acetic acid (LAPWORTH and WECHSLER), 1910, T., 47.

$C_{26}H_{44}O_2$ , from action of silent electric discharge on ethylene (LOSANITSCH), 1910, A., i, 1.

$C_{26}H_{46}O$ , from cholesterol, perhydrol, and sulphuric acid, and its derivatives (MINOVICI and VLAHUTZA), 1912, A., i, 697.

$C_{26}H_{13}O_4N$ , from anthraquinone-2:3-dicarboxylic anhydride, quinaldine and zinc chloride (WILLGERODT and MAFFEZZOLI), 1910, A., i, 679.

$C_{26}H_{14}O_3N_2$ , from 4-nitro-9-hydroxyfluorene-9-carboxylic acid (SCHMIDT and BAUER), 1906, A., i, 26.

$C_{26}H_{16}O_{15}N_4$ , from 3:5-dinitro-4-hydroxybenzoic acid and diphenylene oxide (MORGENSTERN), 1910, A., i, 482.

$C_{26}H_{18}O_4S_2$ , from dibenzylthioltetrahydroquinone (POSNER and LIPSKI), 1904, A., i, 1031.

$C_{26}H_{20}O_4N_6$ , from nitrosobenzaldehyde-*p*-nitrophenylhydrazine (BAMBERGER and PEMSEL), 1903, A., i, 285.

$C_{26}H_{20}O_4N_6$  (three), from the action of amyl nitrite on phenyl-*m*-nitrobenzylidenehydrazine (BAMBERGER and PEMSEL), 1903, A., i, 285.

$C_{26}H_{20}N_2S$ , from benzanilidimide chloride and thiobenzanilide (JAMIESON), 1904, A., i, 397.

- Substance,**  $C_{26}H_{22}O_3N$ , from benzyl cyanide, sodium methoxide, and ethyl cinnamate (AVERY and McDOLE), 1908, A., i, 344.
- $C_{26}H_{22}O_3N_4$ , from interaction of  $\alpha$ -nitroso- $\beta$ -naphthol, methylamine hydrochloride and formaldehyde (LANGE), 1911, A., i, 505.
- $C_{26}H_{24}ON_4$ , and its additive salts, from the action of magnesium phenyl bromide on methoxy- or ethoxy-caffeine (SCHULZE), 1907, A., i, 546.
- $C_{26}H_{26}ON_2$ , from the action of phenylhydrazine on  $\beta$ -phenyl- $\alpha$ -tert.-butyl- $\beta$ -benzoylpropionic acid (JAPP and MAITLAND), 1904, T., 1500.
- $C_{26}H_{26}O_2N_2$ , from acetone and naphthylhydroxylamine (BECKMANN and SCHEIBER), 1907, A., i, 829.
- $C_{26}H_{28}O_2N_4$ , from ethyl benzoylacetonylacetate and phenylhydrazine (BORSCHKE and FELS), 1906, A., i, 510.
- $C_{26}H_{28}O_3N_2$ , from quinoline methiodide and ethyl acetoacetate (KAUFMANN), 1912, A., i, 1017.
- $C_{26}H_{34}N_3Br$ , from the action of cyanogen bromide on 1-*p*-tolylpiperidine (v. BRAUN), 1907, A., i, 960.
- $C_{26}H_{40}O_4N_2$ , from reduction of dioscorine, and its aurichloride (GORTER), 1911, A., i, 562.
- $C_{26}H_{41}O_{10}N_3$ , and its copper salt, from the condensation of aspartic acid and aminopinenedicarboxylic acid (GODDEN), 1908, T., 1173.
- $C_{27}H_{20}O_8$ , from 2-benzoyl-3:4-dimethoxybenzoic acid (FALTIS), 1910, A., i, 698.
- $C_{27}H_{22}O_3$ , from the action of light on benzophenone and benzaldehyde (CIAMICIAN and SILBER), 1911, A., i, 647.
- $C_{27}H_{36}O_4$ , from catechol and diethyl ketone (FABINYI and SZÉKI), 1905, A., i, 592.
- $C_{27}H_{42}O_3$ , and  $C_{27}H_{46}O_3$ , and its diacetate and dipropionate, from the oxidation of cholesterol (WINDAUS), 1907, A., i, 212.
- $C_{27}H_{46}O$ , from the root of *Morinda longiflora* (BARROWCLIFF and TUTIN), 1907, T., 1915; P., 249.
- $C_{27}H_{46}O_3$ , and its acyl derivatives, from the oxidation of cholesterol (PICKARD and YATES), 1908, T., 1680; P., 121.
- $C_{27}H_{18}O_{14}N_4$ , from 3:5-dinitro-4-hydroxybenzoic acid and fluorene (MORGENSTERN), 1910, A., i, 482.
- Substance,**  $C_{27}H_{22}N_2S$ , from benzanilid-imide chloride and thiobenzo-*p*-toluidide (JAMIESON), 1904, A., i, 397.
- $C_{27}H_{23}O_2N$ , from benzylidenbenzoylacetone and benzoylacetoneamine (KNOEVENAGEL, ERLER, and REINECKE), 1903, A., i, 652.
- $C_{27}H_{32}O_6N_1S_2$ , from rongalite and aniline hydrochloride (BINZ and ISAAC), 1908, A., i, 941.
- $C_{28}H_{34}$ , from action of silent electric discharge on benzene and hydrogen (LOSANITSCH), 1910, A., i, 2.
- $C_{28}H_{14}O_6$ , from erythrohydroxyanthraquinone (FARBENFABRIKEN FORM. F. BAYER & Co.), 1906, A., i, 678.
- $C_{28}H_{16}O_2$ , from anthraquinone (KINZLBERGER & Co.), 1910, A., i, 752.
- $C_{28}H_{18}O_3$ , from diphenyleneketen (STAUDINGER), 1906, A., i, 861.
- $C_{28}H_{30}O_4$ , from 3:5-dihydroxytritanolactone (v. LIEBIG), 1905, A., i, 782.
- $C_{28}H_{38}O_{19}$ , from  $\beta$ -bromoacetodextrose (FISCHER and DELBRÜCK), 1909, A., i, 633.
- $C_{28}H_{12}O_{10}Cl_{12}$ , from the action of ethyl alcohol on tetrachloro-*o*-benzoquinone (JACKSON and MACLAURIN), 1907, A., i, 857.
- $C_{28}H_{16}O_2N_2$ , from indanthren (KAUFER), 1903, A., i, 446.
- $C_{28}H_{18}O_{14}N_4$ , from 3:5-dinitro-4-hydroxybenzoic acid and phenanthrene (MORGENSTERN), 1910, A., i, 483.
- $C_{28}H_{20}O_3N_2$ , from 3-phenylpyrazoisocoumarazone and phenol (MICHAELIS and LEO), 1910, A., i, 516.
- $C_{28}H_{26}O_4N_8$ , from dinitrophenyldipyridinium chloride and phenylhydrazine (ZINCKE and WEISSPFENNING), 1912, A., i, 302.
- $C_{28}H_{28}O_5N_4$ , from oxidation of dianisidine (REITZENSTEIN), 1910, A., i, 703.
- $C_{28}H_{38}O_5N_2$  (or  $C_{28}H_{40}O_6N_2$ ), from elatrine acid (v. HEMMELMAYR), 1907, A., i, 230.
- $C_{28}H_{24}O_6N_6S_2Na_2$ , from 1-benzeneazo-2-naphthol-6-sulphuric acid, phenylhydrazine and sodium hydrogen sulphite (BUCHERER and SONNENBURG), 1910, A., i, 146.
- $C_{29}H_{16}N_4$ , and  $C_{34}H_{21}N_3$ , from flavinduline (SACHS and BARGELLINI), 1905, A., i, 488.
- $C_{29}H_{27}O_3$ , from the reduction of *p*-hydroxydeoxybenzoin (WEISL), 1905, A., i, 905.

**Substance,  $C_{39}H_{30}N_2$** , from the action of aniline on phenylchloromethylene-camphor (FORSTER), 1903, T., 105.

$C_{29}H_{45}O_2$ , from the fat of *Beta vulgaris* (NEVILLE), 1912, T., 1103; P., 130.

$C_{29}H_{31}O_6NS$ , from methyl sulphate and 2:7-dihydroxynaphthylene-1:8-dibenzylideneimine (BESCHKE, RÖLLE, and STRUM), 1909, A., i, 962.

$C_{29}H_{26}ON_4ClHg$ , from 3'-amino-4:4'-tetramethyldiaminotriphenylmethane and *o*-hydroxyphenylmercuric chloride (REITZENSTEIN and BONITSCH), 1912, A., i, 740.

$C_{30}H_{20}O_4$ , from 2:3-dimethoxyanthracene (LAGODZINSKI), 1906, A., i, 82.

$C_{30}H_{28}O_4$ , from the methylation of benzoin by Fischer's method (IRVINE and WEIR), 1907, T., 1392.

$C_{30}H_{42}O_{16}$ , from two dicarboxyglutamic ester radicles (GUTHZEIT and HARTMANN), 1907, A., i, 1007.

$C_{30}H_{50}O$ , and its acetate from the latex from Euphorbia (COHEN), 1908, A., i, 884.

$C_{30}H_{22}O_4N_2$ , from phthalyl dibenzoylmethane and phenylhydrazine (SCHEIBER), 1912, A., i, 561.

$C_{30}H_{22}N_4S_5$ , from dehydrodithiomalonanilide sulphide (REISSERT and MORÉ), 1906, A., i, 827.

$C_{30}H_{24}O_4N_2$ , from deoxybenzoincarboxylic acid and deoxazine (WÖLBING), 1906, A., i, 49.

$C_{30}H_{25}O_{30}N_3$ , from the action of fuming nitric acid on the substance,  $C_{30}H_{26}$  (JOVITSCHITSCH), 1908, A., i, 118.

$C_{30}H_{26}O_4S$ , and  $C_{30}H_{28}O_5S$ , from thioduplobenzylideneacetophenone (FROMM and LAMBRECHT), 1908, A., i, 990.

$C_{30}H_{30}ON_2$ , from benzil and dimethylaniline (HALLER and GUYOT), 1907, A., i, 565.

$C_{30}H_{30}O_2N_2$ , from tetramethyldiaminophenylloxanthanol and benzene, and its salts, and compounds with hydroxylamine and phenylhydrazine (HALLER and GUYOT), 1904, A., i, 83.

$C_{30}H_{40}O_{16}Br_2$ , from ester,  $C_{30}H_{42}O_{16}$  (GUTHZEIT and HARTMANN), 1910, A., i, 388.

$C_{30}H_{42}O_9N_8$ , from hexamethylene-tetramine and pyrogallol (GRISHKEWITSCH-TRUCHIMOWSKY), 1910, A., i, 108.

**Substance,  $C_{30}H_{44}O_{10}N_2$** , from reduction of myristicinylideneaminoacetal (SALWAY), 1909, T., 1212.

$C_{30}H_{52}O_5Cr$ , from maaly alcohol and chromic anhydride (SCHIMMEL & Co.), 1909, A., i, 114.

$C_{30}H_{25}OBr_3S$ , from the action of bromine on thioduplobenzylideneacetophenone (FROMM and LAMBRECHT), 1908, A., i, 990.

$C_{30}H_{31}O_6N_3S_3$ , from the reduction of dibenzyl diethylthioninedisulphonic acid- (GNEHM and SCHÖNHOLZER), 1908, A., i, 113.

$C_{30}H_{42}O_3I_2HgI$ , from camphor and  $K_2HgI_4$  (MARSH and STRUTHERS), 1909, T., 1781.

$C_{31}H_{27}N$ , and its nitroso-derivative, from alcoholic ammonia and dibenzylidene cyclopentanone (MENTZEL), 1903, A., i, 497.

$C_{31}H_{25}O_3$ , from methyl cinnamate and magnesium phenyl bromide (KÖHLER and HERITAGE), 1906, A., i, 97.

$C_{31}H_{32}O_3$ , from the reduction of 4-hydroxy-3-methyldeoxybenzoin (BLAU), 1905, A., i, 906.

$C_{31}H_{32}N_4$ , from benzaldehyde and diphenylmethanediethyl dihydrazine (V. BRAUN), 1910, A., i, 525.

$C_{31}H_{11}O$  (or  $C_{33}H_{48}O_2$ ), from the latex from Euphorbia (COHEN), 1908, A., i, 884.

$C_{31}H_{46}O_3$ , from olive leaves (POWER and TUTIN), 1908, T., 898; P., 117.

$C_{31}H_{50}O_3$ , and  $C_{33}H_{50}O_3$ , from lupeol acetate (COHEN), 1907, A., i, 211.

$C_{31}H_{57}O$ , from the reduction of geraniol (ENKLAAR), 1908, A., i, 664.

$C_{31}H_{53}O_2$ , from the fat of *Beta vulgaris* (NEVILLE), 1912, T., 1102; P., 130.

$C_{31}H_{21}O_2N_3$ ,  $C_{31}H_{22}O_2N_2$ ,  $C_{32}H_{24}O_3N_2$ , and  $C_{33}H_{26}O_4N_2$ , from flavinduline (SACHS and BARGELLINI), 1905, A., i, 488.

$C_{31}H_{23}ON$ , from  $\beta$ -benzoyl- $\alpha$ -phenylpropionitrile and benzylideneacetophenone (HANN and LAPWORTH), 1904, T., 1359; P., 183.

$C_{31}H_{23}O_2N$ , from  $\beta$ -naphthol, benzaldehyde, and ammonia (BETTI), 1903, A., i, 511.

$C_{31}H_{32}O_2N_2$ , from tetramethyldiaminophenylloxanthanol and toluene, and its salts and compounds with hydroxylamine and phenylhydrazine (HALLER and GUYOT), 1904, A., i, 83.

$C_{31}H_{40}O_6N_2Br_2$ , from 2:4-dibromo-1-aminoanthraquinone and oxalyl chloride (LENHARD), 1912, A., i, 998.



Substance,  $C_{31}H_{35}O_8NS$ , from 2:7-dihydroxy-1:8-di-*m*-hydroxybenzylideneimine and methyl sulphate (BESCHKE, RÖLLE, and STRUM), 1909, A., i, 964.

$C_{31}H_{35}O_8NS$ , from 2:7-dihydroxy-1:8-di-*o*- and -*p*-methoxybenzylideneimine and methyl sulphate, and chloride, and aurichloride of *p*-compound (BESCHKE, RÖLLE, and STRUM), 1909, A., i, 963.

$C_{32}H_{14}O_4$ , from  $\beta$ -methylantraquinone (BADISCHE ANILIN- & SODA-FABRIK), 1908, A., i, 999.

$C_{32}H_{23}N_5$ , from sodium benzenazo- $\alpha$ -naphthylsulphite (VOROSCHTSOFF), 1911, A., i, 820.

$C_{32}H_{24}O_4$ , from  $\alpha$ -bromodiphenacyl (PAAL and SCHULZE), 1903, A., i, 709.

$C_{32}H_{26}O$ , from dehydrodypnopinacone and sodium amalgam (DELACRE), 1912, A., i, 30.

$C_{32}H_{26}O_6$ , from the reduction of  $\gamma$ -hydroxy- $\alpha$ -keto- $\beta$ - $\gamma$ -diphenylbutyric acid (ERLENMEYER), 1905, A., i, 784.

$C_{32}H_{26}O_6$ , from reduction of 3:4-dimethyleneoxychalkone (BARGELLINI and BINI), 1912, A., i, 118.

$C_{32}H_{30}O_4$ , from reduction of 4-methoxychalkone (BARGELLINI and BINI), 1912, A., i, 118.

$C_{32}H_{51}N$  (or  $C_{32}H_{53}N$ ), from cholesterolone and piperidine (WINDAUS), 1906, A., i, 174.

$C_{32}H_{54}O_2$ , from the oil of *Strychnos nux vomica* (HEIDUSCHKA and WALLENREUTER), 1912, A., ii, 1087.

$C_{32}H_{20}O_5N_2$ , from ethyl benzoylacetate and anthranilic acid (v. NIEMENTOWSKI), 1905, A., i, 612; 1906, A., i, 39.

$C_{32}H_{24}O_2N_2$ , from fluorenone and *p*-phenylenediamine (SCHLENK and KNORR), 1909, A., i, 808.

$C_{32}H_{26}O_{14}N_4$ , from 3:5-dinitro-4-hydroxybenzoic acid and retene (MORGSTERN), 1910, A., i, 482.

$C_{32}H_{30}ON_4$ , from indigotin and dimethylaniline (HALLER and GUYOT), 1907, A., i, 565.

$C_{32}H_{30}ON_4$ , from 3-phenylpyrazoisocoumarazone and dimethylaniline (MICHAELIS and LEO), 1910, A., i, 516.

$C_{32}H_{51}O_2Br$ , from extract of *Apocynum androsaemifolium* and bromine (MOORE), 1909, T., 742.

Substance,  $C_{33}H_{22}O_7$ , from acetic anhydride, sodium acetate, and phenanthraquinone (SCHARWIN), 1905, A., i, 448.

$C_{33}H_{26}N_2$ , from the action of formaldehyde on phenyl- $\beta$ -naphthylamine (BUCHERER and SEYDE), 1907, A., i, 345.

$C_{33}H_{27}N_5$ , from desylantranilic acid and phenylhydrazine (WECKOWICZ), 1908, A., i, 28.

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$C_{34}H_{38}O_5N_4$ , isomeric with deoxyhæmatoporphyrin, from reduction of hæmatoporphyrin (PILORY), 1909, A., i, 540.

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**Substance**,  $C_{39}H_{22}O_4N_2$ , from 2-amino-anthraquinone, naphthalene, and carbon tetrachloride (BADISCHE ANILIN- & SODA-FABRIK), 1912, A., i, 811.

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$C_{40}H_{26}N_4$ , from  $o$ -phenylenediamine and *oo'*-dibenzil (ZINCKE and TROPF), 1909, A., i, 36.

$C_{40}H_{30}O_7$ , from 3:5-dihydroxytritanic acid (v. LIEBIG), 1905, A., i, 782.

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$C_{40}H_{50}O_5$ , from the absorption of oxygen by the condensation product of acetylene (LOSANITSCH), 1908, A., ii, 32.

$C_{40}H_{56}O_{18}$ , from the oxidation of xanthophyll (WILLSTÄTTER and MIEG), 1907, A., i, 866.

$C_{40}H_{56}I_3$ , from carotene (WILLSTÄTTER and ESCHER), 1910, A., i, 331.

$C_{40}H_{80}O_{20}$ , from diethyl ester of acid  $C_{19}H_{28}O_{10}$ , from cholic acid, and metallic derivatives of (LETSCHKE), 1909, A., i, 697.

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- Substance**,  $C_{14}H_{27}O_3N_9$ , from diketone  $C_{22}H_{14}O_2N_2$  (ANGELICO), 1911, A., i, 1033.
- $C_{44}H_{30}O_3N_4$ , from oxidation of oximinotriphenylpyrrole (ANGELICO and LABISI), 1910, A., i, 427.
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- $C_{16}H_{24}O_6N_{20}$ , from *p*-benzoquinone and diaminostilbene (SIEGMUND), 1910, A., i, 749.
- $C_{47}H_{52}O_8N_5Br$ , from brucine and cyanogen bromide (MOSSLER), 1910, A., i, 275.
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- $C_{48}H_{46}O_8$ , from the absorption of oxygen by the condensation product of acetylene (LOSANITSCH), 1908, A., ii, 33.
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- $C_{48}H_{53}O_8N_5Cl_3Br$ , from brucine and cyanogen bromide (MOSSLER), 1910, A., i, 275.
- $C_{50}H_{80}O_2$ , from Pontianac resins (WEBER), 1904, A., i, 332.
- $C_{50}H_{70}O_5I_2Hg_6$ , from interaction of camphor, and mercuric and potassium iodides (MARSH and STRUTHERS), 1909, T., 1787.
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- $C_{52}H_{70}O_{35}$ , from "bromoacetolactose" and silver carbonate (E. and H. FISCHER), 1910, A., i, 716.
- $C_{54}H_{50}O_5$ , and its diacetate, from the oxidation of dicholesteryl ether (PICKARD and YATES), 1908, T., 1682; P., 121.
- $C_{54}H_{42}O_6N_2S_4$ , and its tetra-acetyl derivative, from the action of hydroxylamine on 3:6-diphenylthiolquinone (POSNER), 1904, A., i, 1030.
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- $C_{60}H_{49}O_5N_3$ , from aniline and benzoic acid (v. LIEBIG), 1908, A., i, 646.
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- $C_{66}H_{64}OBr_2$ , from tribenzylcarbinol (SCHMERDA), 1909, A., i, 564.
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- in aromatic compounds, explanation of the (HOLLEMAN), 1906, A., i, 818.
- influence of, in the components on the equilibrium of binary solutions (KREMANN), 1905, A., i, 270; ii, 77; (KREMANN and RODINIS), 1906, A., ii, 268.
- influence of the added substance in aromatic nuclei on (HOLLEMAN), 1906, A., i, 412.
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- in the benzene ring, problem of (HOLLEMAN), 1906, A., i, 489.
- influence of the  $CH_3$  group on, in the benzene nucleus (BLANKSMA), 1903, A., i, 164.
- influence of, in the nucleus on the rate of oxidation of the side-chain (COHEN and MILLER), 1904, T., 174, 1622; P., 11, 219; (COHEN and HODSMAN), 1907, T., 970; P., 152.
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- influence of, on the stability of phenols towards carbon dioxide at the ordinary temperature (RAIKOW and MOMTSCHILOW), 1903, A., i, 162.
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- isomorphous, of the halogens in organic molecules** (JAEGER), 1906, A., i, 273.
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- of halogens by hydroxyl in chlorobromodiazobenzenes** (ORTON and REED), 1907, T., 1554; P., 212.
- of hydrogen for atoms or groups of atoms in aromatic compounds during reduction** (BLANKSMA), 1905, A., i, 761.
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- of hydroxyl by the hydrazino-group** (FRANZEN), 1907, A., i, 880; (FRANZEN and EICHLER), 1908, A., i, 831.
- of negative groups by the hydroxyl group in ortho-substituted diazonium salts** (NOELTING and BATTEGAY), 1906, A., i, 221.
- of methoxyl and ethoxyl groups by alkyl radicles** (REFORMATSKY), 1906, A., i, 136.
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- Succinaldehydebisphenylhydrazones** (HENLE), 1905, A., i, 490.
- Succinamic acid, ethyl ester** (MOL), 1908, A., i, 77.
- Succinanil, Succinanilic acid, and Succinanilide**, preparation of (TINGLE and CRAM), 1907, A., i, 692.
- and Succinanilic acid**, sulphur derivatives, and their transformation product (REISSERT and MORÉ), 1906, A., i, 827.
- Succinanil, *m*-cyano-** (BOGERT and BEANS), 1904, A., i, 585.
- Succinanilcarboxylic acid** (RIEDEL), 1912, A., i, 774.
- Succinanilic acid**, reaction of, with aniline (TINGLE and LOVELACE), 1907, A., i, 1044.
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- p*-cyano-**, and its derivatives (BOGERT and WISE), 1912, A., i, 451.
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- d*-nitro-** (TINGLE and BURKE), 1910, A., i, 21.
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- unimolecular** (HARRIES and HOHENEMSER), 1908, A., i, 133.
- Succinein,  $\text{C}_{16}\text{H}_{14}\text{O}_6$** , and its acetate, from succinic anhydride and quinol (MEYER and WITTE), 1908, A., i, 671.
- Succinic acid (ethanedicarboxylic acid)**, and its potassium salts and their crystallography (MARSHALL and CAMERON), 1907, T., 1519; P., 214.
- presence of, in meat extracts** (KUTSCHER and STEUDEL), 1903, A., ii, 499; (SIEGFRIED: WOLFF), 1903, A., ii, 660.
- production of, during alcoholic fermentation** (EHRlich), 1908, A., ii, 416.
- and its alkyl derivatives**, method for the formation of (HIGSON and THORPE), 1906, T., 1455; P., 242.
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- oxidation of, by animal tissues** (BATTELLI and STERN), 1911, A., 132.

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- Succinic acids**, *dibromo-*, configuration of the stereoisomeric (MCKENZIE), 1911, P., 150; 1912, T., 1196; P., 160.
- Succinic anhydride**, rate of hydration of (RIVETT and SIDGWICK), 1910, T., 1677; P., 200.
- Succinic anhydride**, interaction of, with *o-*, *m-*, and *p*-phenylenediamines (MEYER), 1903, A., i, 443.  
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- Succinic pinacone**. See  $\beta\epsilon$ -Dimethylhexane- $\beta\epsilon$ -diol.
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- Succinonitrile** (*ethylene cyanide*), solvent and ionising properties of (BRUNI and MANUELLI), 1906, A., ii, 71.  
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- Succinoperinone** (SACHS), 1909, A., i, 431.



- Succinophenone**, *di*bromo-, action of phenylhydrazine and of *as*-phenylbenzylhydrazine on (MEYER and MARX), 1908, A., i, 602.
- Succino-pyrogallo- and -resorcino-rhods**, preparation of (WEINSCHENK), 1904, A., i, 59.
- iso***Succino-*p*-toluidic acid**, ethyl ester, crystallography of (ROSATI), 1911, A., i, 776.
- Succinetramethylacetal and di**bromo- (HARRIES and KRÜTZFELD), 1906, A., i, 930.
- Succinyl chloride**, tautomerism of (MEYER and MARX), 1908, A., i, 602.
- Succinylacetoacetic acid**, ethyl ester, and its hydrazine and hydroxylamine derivatives (SCHEIBER and LUNGWITZ), 1911, A., i, 836.
- cyclo***Succinyl $\alpha$ -diaminotolane** (RUGGLI), 1912, A., i, 914.
- Succinylbis-1-amino-2:5-dimethylpyrrole-3:4-dicarboxylic acid**, ethyl ester (BÜLOW and WEIDLICH), 1906, A., i, 982.
- Succinylbismethylbenzylidenehydrazone** (BACKER), 1912, T., 598.
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- Succinylresotinic acids**, *o*-, *m*-, and *p*- (FARBENFABRIKEN VORM. F. BAYER & Co.), 1908, A., i, 798.
- Succinyl $\alpha$ -acetoacetic acid**, ethyl ester (SCHEIBER and LUNGWITZ), 1911, A., i, 836.
- Succinyl $\alpha$ -diguanaide** and its salts (RACKMANN), 1910, A., i, 896.
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- Succinyl $\alpha$ -dimalonie acid**, ethyl ester and its dipyrazolone derivative (SCHEIBER), 1909, A., i, 363.
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- iso***Succinylguanidine** (GERNGROSS), 1905, A., i, 942.
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- Succinylphenylimide**, *m*-nitro- (TINGLE and BURKE), 1910, A., i, 21.
- Succinylpiperidide** (FRANCHIMONT, VAN RYN, and FRIEDMANN), 1907, A., i, 842.
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- m*-Sulphonamidobenzoic acid**, comparison of, made by different methods (FRAZER), 1903, A., i, 825.
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- p*-Sulphonamido-*m*-toluic acid**, products of heating (WATERS), 1912, A., i, 355.
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- 6-Sulphonaphthalene-2(2')-azosulphazone**, 8-hydroxy-, sodium salt (CLAASZ), 1912, A., i, 390.
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- Sulphosalicylic acid**, action of, on sodium diborate (BARTHE), 1908, A., i, 271. hexamethylenetetramine salt (RIEDEL), 1912, A., i, 356. quinoline salt (PRUNIER), 1910, A., i, 586. detection of (BARRAL), 1912, A., ii, 608.
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- Tetra-acetoxy-*p*-xylene** (FICHTER and WEISS), 1908, A., i, 659.
- Tetra-acetylallagic acid** (NIERENSTEIN), 1905, A., i, 365, 805.
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- Tetra-acetylglucosamine methylglucoside** (HAMLIN), 1911, A., i, 529.
- Tetra-acetylglucosepyridinium** hydroxide, bromide, and hydrogen ferrocyanide (FISCHER and RASKE), 1910, A., i, 503.
- Tetra-acetylglucosyringic acid**, methyl ester (MAUTHNER), 1910, A., i, 677.
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- Tetra-acetylisatide** and 5:5'-dibromo (KOH and KLEIN), 1912, A., i, 800.
- Tetra-acetylmethylpentose** (POWER and ROGERSON), 1912, T., 17.
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- Tetra-alkyldiaminodiphenylmethanesulphonic acids**, preparation of (AKTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION), 1907, A., i, 969.
- Tetra-alkylammonium salts**, viscosity of (TAYLOR and MOORE), 1908, A., ii, 818.
- Tetra-alkylammonium series**, bases of the, the double nitrites of mercury and (RAY), 1910, P., 172.
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- Tetra-alkylsilicanes** (BYGDÉN), 1911, A., i, 845.
- aaδδ-Tetra-allylbutylene glycol** (REFORMATSKY), 1909, A., i, 4.
- Tetra-anhydrotetrakisdiphenylsilicanediol** (KIPPING), 1912, T., 2138; P., 244.
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- Tetra-anisylhydrazine** and its salts (WIELAND and LECHER), 1912, A., i, 907.
- p*-Tetra-anisyltetrazen** (WIELAND), 1908, A., i, 1026.
- Tetra-arylhydrazines**, decomposition of (WIELAND), 1909, A., i, 1014.
- Tetra-azo-azodiphenyl salts** (WILLSTÄTTER and KALB), 1906, A., i, 996.
- Tetra-azo-compounds**, mixed (BAMBERGER and FREI), 1904, A., i, 123.
- Tetra-azoindigotin**, absorption spectra of (EDER), 1903, A., i, 344.
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- 2:6-Tetra-azophenol-4-sulphonic acid**, preparation of (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1904, A., i, 353.
- Tetrabenzenesulphon-*m*- and -*p*-phenylenediamines** (HINSBERG and KESSLER), 1905, A., i, 339.
- s*-Tetrabenzoylthane** (ABELL), 1912, T., 997; P., 145.
- oo'pp'-Tetrabenzoyloxy-2:5-diphenylpyrazine** (TUTIN), 1910, T., 2515.
- ααγγ-Tetrabenzoyl-*s*-phenylpropane** (DIECKMANN and v. FISCHER), 1911, A., i, 452.
- Tetrabenzoylquinic acid** and its salts, ethyl ester, and chloride (ECHTERMEIER), 1906, A., i, 368.



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- Tetrabenzylacetone**, *tetra-p*-nitro-, and its dicarboxylic acid (FICHTER and WORTSMANN), 1904, A., i, 592.
- N-Tetrabenzyl-diaminophenazonium chloride** (FISCHER and VEIEL), 1905, A., i, 246.
- $\alpha\alpha\delta\delta$ -Tetrabenzylbutane- $\alpha\delta$ -diol** (HOUBEN and HAHN), 1908, A., i, 540.
- Tetrabenzylethylene** and *tetranitro-* (MANCHOT and KRISCHE), 1905, A., i, 142.
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- Tetrabenzylmethylenediamine** and its reactions (V. BRAUN and RÖVER), 1903, A., i, 464.
- Tetrabenzylstannane** (SMITH and KIPPING), 1912, T., 2559; P., 314.
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- Tetracinnamylammonium salts** (EMDE and FRANKE), 1909, A., i, 708.
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- Tetradecinene** and its dibromide (ZUMPF), 1904, A., i, 291.
- Tetradecylthiophan** (MABERY and QUAYLE), 1906, A., i, 395.
- s-Tetra-4-diphenylethane** (SCHLENK, RENNING, and RACKY), 1911, A., i, 596.
- Tetra-4-diphenylethylene** (SCHLENK, RENNING, and RACKY), 1911, A., i, 596.
- Tetradiphenylhydrazine** and its hydrochloride (WIELAND and SÜSSER), 1911, A., i, 571.
- Tetradymite** from Colorado (HILLEBRAND), 1905, A., ii, 723.
- Tetraethanolethylenediamine** and its platinumchloride (KNORR and BROWNSDON), 1903, A., i, 153.
- s-Tetraethyl-diaminodimethylcarbamide** (EINHORN), 1908, A., i, 611.
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- Tetraethyl-diaminodiphenylanthrone** (HALLER and GUYOT), 1903, A., i, 348.
- 9:10-Tetraethyl-diaminodiphenyl-9:10-diphenyldihydroanthracene** and its isomeride (HALLER and GUYOT), 1905, A., i, 270; (GUYOT and CATEL), 1905, A., i, 517.
- 3:8-Tetraethyl-diaminodiphenyleneazone** (ULLMANN and DIETERLE), 1904, A., i, 270.
- Tetraethyl-diaminodiphenylethane** (BUSIGNIES), 1909, A., i, 737.
- pp-Tetraethyl-diaminodiphenyl-ethylene and -propylene** (BUSIGNIES), 1909, A., i, 736.
- Tetraethyl-diaminodiphenylcyclohexylenedimethane** (LEMOULT), 1912, A., i, 725.
- Tetraethyl-diaminodiphenylmalonic acid**, methyl and ethyl esters (GUYOT and MICHEL), 1909, A., i, 158.
- 4:4'-Tetraethyl-diaminodiphenylmethane** and its picrate (V. BRAUN and KRUBER), 1912, A., i, 971.
- 4:4'-Tetraethyl-diaminodiphenylmethane, 2:2'-dinitro-** (EPSTEIN), 1903, A., i, 580.
- Tetraethyl-diaminofuroxan** (WIELAND), 1909, A., i, 893.
- pp-Tetraethyl-diamino-2:4:6:8-tetrahydroxy-3:7-dibenzylanthraquinone** (FAIRWERKE vorm. MEISTER, LUCIUS, & BRÜNING), 1907, A., i, 1086.
- 2:7-Tetraethyl-diamino-9-phenylacridine-2'-carboxylic acid** (*tetraethyl-flaveosine*), salts of, and ethyl ester and its hydrochloride, picrate, and tetrabromo-derivative (GRANDMOUGIN and LANG), 1909, A., i, 971.
- Tetraethyl-diaminotriphenylbenzylmethane** and its hydriodide and methiodide (FREUND and RICHARD), 1909, A., i, 418.
- Tetraethyl-diaminotriphenylethylmethane** hydriodide and hydrogen sulphate (FREUND and RICHARD), 1909, A., i, 419.

- Tetraethyl $\delta$ aminotriphenylpropylmethane** hydrogen sulphate (FREUND and RICHARD), 1909, A., i, 419.
- Tetraethylammonium** bromide, molecular weight of, and the atomic weight of carbon (THORPE), 1909, P., 285; (SCOTT), 1909, T., 1200; P., 173.
- perchlorate* (HOFMANN, ROTH, HÖBOLD, and METZLER), 1910, A., i, 818.
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- trihydrochloride, bromide dihydrobromide, and iodide trihydriodide (KAUFLEER and KUNZ), 1909, A., i, 556.
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- double salt of, with silver iodide (STRÖMHOLM), 1903, A., i, 233.
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- styphnate, preparation and crystallography of (JERUSALEM), 1909, T., 1287.
- Tetraethylarsonium iodide**, preparation of, and its pharmacological action (GORNAGA), 1909, A., ii, 822.
- 1:3:5:5-Tetraethylbarbituric acid** (FISCHER and DILTHEY), 1905, A., i, 36.
- Tetraethylbenzidine** (4:4'-tetraethyl $\delta$ aminodiphenyl) and 2:2'-dinitro- (ULLMANN and DIETERLE), 1904, A., i, 269.
- Tetraethylflavosine**. See 2:7-Tetraethyl $\delta$ amino-9-phenylacridine-2'-carboxylic acid.
- $\gamma\gamma\epsilon\epsilon$ -Tetraethylheptan- $\delta$ -ol** and its phenylurethane (ZERNER), 1911, A., i, 950.
- $\gamma\gamma\epsilon\epsilon$ -Tetraethylheptan- $\delta$ -one** (ZERNER), 1911, A., i, 523, 950.
- Tetraethylhydrofuran** (HOUBEN and HAHN), 1908, A., i, 540.
- Tetraethylloxamidedioxime** (WIELAND), 1909, A., i, 893.
- Tetra-ethylphosphonium chloride** and hydroxide, hydroxy- (PARTHEIL and GRONOVER), 1903, A., i, 801.
- Tetraethylrhodamine** and its hydrochloride and anhydrous base (NOELTING and DZIEWOŃSKI), 1905, A., i, 935.
- alkali salts of (WACKER), 1907, A., i, 726.
- and **Tetraethylaporphodamine** silver nitrates (NOELTING and DZIEWOŃSKI), 1906, A., i, 874.
- Tetraethylsuccinic acid** and its anhydride and methyl hydrogen ester (J. and A. P. WALKER), 1905, T., 961; P., 210.
- Tetraethylthiocarbamide** (DELÉPINE), 1911, A., i, 23.
- Tetraethylthiolquinol** and its compound with lead acetate and dibenzoate (SAMMIS), 1905, A., i, 797.
- Tetraethylthiolquinone**, preparation of (SAMMIS), 1905, A., i, 797.
- Tetraethylthionine** and its derivatives (GNEHM and SCHINDLER), 1908, A., i, 110.
- Tetraethylthionine**, amino-, bromo-, and nitro-, and their salts (GNEHM and SCHINDLER), 1908, A., i, 111.
- N*-**Tetraethyltrimethylenediamine** and its mercurichloride (FLÜRSCHHEIM), 1904, A., i, 20.
- Tetraformaltrisazine** (HOFMANN and STORM), 1912, A., i, 665.
- Tetragalloylallagic acid** (NIERENSTEIN), 1911, A., i, 382.
- Tetragenic double salts** (MEYERHOFFER), 1903, A., ii, 292.
- Tetraglycylglycine** (FISCHER), 1904, A., i, 653.
- Tetraguaiacolferic acid** and its salts (WEINLAND and BINDER), 1912, A., i, 850.
- Tetraguaiaco-quinol** and -quinone and the diacetyl and dimethyl derivatives of the quinol (BERTRAND), 1904, A., i, 157.
- Tetrahedrite** (*fahlore*) from the Sylvester mine, Vosges, Alsace (UNGEMACH), 1906, A., ii, 765.
- composition of (KRETSCHMER), 1911, A., ii, 119.
- crystallography of (COLOMBA), 1907, A., ii, 103.
- Tetraheptyl alcohol** (GUERBET), 1903, A., i, 3.
- Tetrahydroacenaphthaisothiophendicarboxylic acid**, dihydroxy- (HINSBERG), 1910, A., i, 335.

- 1:2:3:4-Tetrahydroacridine** and its derivatives and **5-carboxylic acid** and its salts (BORSCHÉ, TIEDTKE, and ROTTSIEPER), 1908, A., i, 682.  
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- 1:2:3:4-Tetrahydroacridine-5-carboxylic acid**, and its salts and derivatives, and 7-bromo-, and 7:9-dibromo- (BORSCHÉ, SCHMIDT, TIEDTKE, and ROTTSIEPER), 1910, A., i, 883.
- 1:2:3:4-Tetrahydroacridine-6-sulphonic acid** (BORSCHÉ, SCHMIDT, TIEDTKE, and ROTTSIEPER), 1910, A., i, 883.
- Tetrahydroacridone** (TIEDTKE), 1909, A., i, 255.
- Tetrahydroaldehydecollidine**. See 2-Methyl-5-ethyltetrahydropyridine.
- Tetrahydroaloesol**, *tetrachloro*-, and its acetyl derivative (LÉGER), 1908, A., i, 980.
- Tetrahydroanthracene** (GODCHOT), 1904, A., i, 987.
- 9:10-Tetrahydroanthracene** and 9:10-dibromo- (GODCHOT), 1906, A., i, 495; 1907, A., i, 841.
- Tetrahydroatropaldehyde** (DARZENS and ROST), 1910, A., i, 856.
- Tetrahydrobenzaldehyde**. See *cyclo*-Hexenealdehyde.
- Tetrahydromesobenzdianthrone**, acetyl derivative of (POTSCHWAUSCHEG), 1910, A., i, 495.
- Tetrahydrobenzene**. See *cyclo*Hexene.
- Tetrahydrobenzoic acids**. See *cyclo*-Hexenecarboxylic acids.
- $\Delta^{1(6)}$ -**Tetrahydrobenzo- $\alpha$ - and - $\beta$ -naphthindoles** (BORSCHÉ, WITTE, and BOTHE), 1908, A., i, 366.
- Tetrahydrobenzthiopyran** (*thiochroman*) and its derivatives (V. BRAUN), 1911, A., i, 76.
- Tetrahydroberberine** and its methiodide (FREUND), 1912, A., i, 333.  
and its methosulphate and  $\alpha$ - and  $\beta$ -benzyl chlorides (McDAVID, PERKIN, and ROBINSON), 1912, T., 1222; P., 160.  
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- Tetrahydroberberrubine** (FRERICHS), 1910, A., i, 501.
- Tetrahydrocarbazole**, derivatives of (BORSCHÉ, WITTE, and BOTHE), 1908, A., i, 365.  
additive compound of, with picryl chloride (CIUSA and VECCHIOTTI), 1912, A., i, 755.
- Tetrahydrocarbazole series**, preparation and transformations of members of the (PLANCHER and CARRASCO), 1904, A., i, 777.
- Tetrahydrocarbazole-*p*-carboxylic acid** (PERKIN), 1904, T., 419; P., 51.
- Tetrahydrocarlina oxide**. See  $\alpha$ -Phenyl- $\gamma$ -2-furylpropane.
- Tetrahydrocarveol** and its phenylurethane (WALLACH and KÖHLER), 1905, A., i, 451.
- Tetrahydrocarvestrenediol** (*m-menthane-1:8-diol*), *cis*- and *trans*-, synthesis of (PERKIN and TATTERSALL), 1907, T., 501; P., 66.
- cis*-**Tetrahydrocarvestrenediol**, synthesis of (FISHER and PERKIN), 1908, T., 1889.
- Tetrahydrocarvestrenediol anhydride**. See *m*-Cineole.
- Tetrahydrocarvone**, 8-hydroxy-, and its oxime and semicarbazone (RUPE and LIECHTENHAN), 1906, A., i, 375.
- l*-**Tetrahydrocarvone**, oxime and semicarbazone of (WALLACH), 1911, A., i, 470.
- Tetrahydrocarvonylacetoacetic acid**, chloro-, ethyl ester, tautomeric forms (RABE), 1903, A., i, 268; (RABE and WEILINGER), 1903, A., i, 269.
- Tetrahydro- $\beta$ -collidine** and its additive salts, oxalate, and hydrogen tartrate (KOENIGS and BERNHART), 1905, A., i, 824.
- Tetrahydrocolumbamine methyl ether** (FEIST), 1908, A., i, 102.
- Tetrahydrocolumbine** and its salts (GÜNZEL), 1906, A., i, 977.
- Tetrahydrocresol**, acetyl derivative (MURAT), 1909, A., i, 146.
- Tetrahydrocuminaldehide** and its oxime and semicarbazone and **Tetrahydrocuminic acid** (WALLACH), 1905, A., i, 710.  
source of, in plants (WALLACH), 1906, A., i, 195.
- Tetrahydrocuminol** and its phenylurethane (WALBAUM and HUTHIG), 1905, A., i, 604.
- Tetrahydrocymene** (BRUNEL), 1905, A., i, 197.
- $\Delta^2$ -**Tetrahydrocymene**. See Dihydrocarvenene.



- Tetrahydrodeoxytyisine** and its additive salts and nitroso- (FRIEND and HORKHEIMER), 1906, A., i, 302.
- Tetrahydrodibenzospiropyran** (BORSCHE), 1912, A., i, 194.
- Tetrahydroadicovelone** (WALLACH), 1911, A., i, 471.
- Tetrahydrodi-coumaric acids and -coumarins**,  $\alpha$ - and  $\beta$ - (FRIES and FICKEWIRTH), 1908, A., i, 823.
- Tetrahydrodi-4:6-dimethylcoumarins**,  $\alpha$ - and  $\beta$ - (FRIES and FICKEWIRTH), 1908, A., i, 824.
- $\alpha$ - and  $\beta$ -**Tetrahydrodinaphthanthracenes** (W. H. and M. MILLS), 1912, T., 2202; P., 243.
- Tetrahydrodinaphthanthraquinone**, dihydroxy-, diacetyl derivative (W. H. and M. MILLS), 1912, T., 2206.
- Tetrahydro- $\beta$ -dinaphthylene oxide** and di-bromo- (HÖNIGSCHMID), 1903, A., i, 165.
- Tetrahydrodiphenylene oxide**, reduction of (HÖNIGSCHMID), 1903, A., i, 165.
- Tetrahydroellagic acid** (NIERENSTEIN), 1910, A., i, 623.
- Tetrahydroeucarvone** and its oxime and semicarbazone (WALLACH and KÖHLER), 1905, A., i, 451.
- Tetrahydroeucarvylamine** and its benzoyl derivative (WALLACH and KÖHLER), 1905, A., i, 451.
- Tetrahydrofavanthrens**,  $\alpha$ - and  $\beta$ -, and their derivatives (SCHOLL and HOLDERMANN), 1908, A., i, 697.
- Tetrahydrofuran** (BOURGUIGNON), 1908, A., i, 280.
- Tetrahydrofuran**, 3-hydroxy-, and its phenylurethane (PARISELLE), 1909, A., i, 691.
- cis*-**Tetrahydrofuran-2:5-dicarboxyldianilide** (LE SUEUR and HAAS), 1910, T., 184.
- cis*-**Tetrahydrofuran-2:5-dicarboxylic acid**, anhydride and ammonium salt (LE SUEUR and HAAS), 1910, T., 183.
- Tetrahydrofuran-1-mono- and -1:1-dicarboxylic acids**, 3-hydroxy- (TRAUBE), 1905, A., i, 13.
- Tetrahydroglyoxaline**, 2-imino- (*ethyleneguanidine*) and its salts (SCHENCK), 1910, A., i, 100.
- Tetrahydroapoharmine** and its picrate (HASENFRATZ), 1912, A., i, 797.
- Tetrahydroindanthren**, tetrasodium and tetra-benzoyl derivatives of (SCHOLL, STEINKOPF, and KABACZNIK), 1907, A., i, 256; (SCHOLL and BERBLINGER), 1907, A., i, 257.
- Tetrahydrojateorrhizine** (FEIST), 1908, A., i, 103.
- Tetrahydrolaserpitin** (MORGENSTERN), 1912, A., i, 709.
- Tetrahydrolimonenediphenyldisulphone** (POSNER and TSCHARNO), 1905, A., i, 279.
- Tetrahydrolinalool** ( $\beta$ -*dimethyloctan- $\zeta$ -ol*), synthesis of (ENKLAAR), 1908, A., i, 934.
- Tetrahydro-1-methylnaphthalene**, 2:3-diketo-derivative of (FRIES and HEMPELMANN), 1909, A., i, 809.
- 1:2:3:4-Tetrahydronaphthalene**, absorption spectrum of (LEONARD), 1910, T., 1246; P., 143.
- and bromo- and chloro- (LEROUX), 1904, A., i, 986.
- in coal tar (BOES), 1903, A., i, 161.
- 1:2:3:4-Tetrahydronaphthalene**, 1- and 2-bromo- (SMITH), 1904, T., 729; P., 110; (MORGAN, MICKLETHWAIT, and WINFIELD), 1904, T., 738; P., 109.
- 1- and 2-bromodinitro- (MORGAN, MICKLETHWAIT, and WINFIELD), 1904, T., 747; P., 109.
- Tetrahydronaphthalene-1-azo- $\beta$ -naphthol**, 4-bromo-, and its benzoyl derivative (MORGAN, MICKLETHWAIT, and WINFIELD), 1904, T., 749; P., 110.
- Tetrahydronaphthalenephenylsulphone** (POSNER and TSCHARNO), 1905, A., i, 279.
- Tetrahydronaphthalene-1-sulphinic acid** (MORGAN, MICKLETHWAIT, and WINFIELD), 1904, T., 757; P., 110.
- Tetrahydronaphthalene-1-sulphonic acid** and its chloride, anilide, and barium salt (MORGAN, MICKLETHWAIT, and WINFIELD), 1904, T., 756; P., 110.
- Tetrahydro- $\alpha$ -naphthoic acid**, menthyl ester, and its rotation (RUPE, LOTZ, and SILBERBERG), 1903, A., i, 566.
- Tetrahydro- $\alpha$ -naphthoic acid**, 8-amino-, and its methyl ester and acetyl derivative (SCHROETER and RÖSSLER), 1903, A., i, 118.
- Tetrahydro- $\beta$ -naphthoic acid**, menthyl ester (RUPE and MÜNTER), 1910, A., i, 398.
- Tetrahydronaphthoic acids**, resolution of (PICKARD and YATES), 1906, T., 1101; P., 202.
- ac*-**Tetrahydro-2-naphthol** and its esters, rotation of (PICKARD and KENYON), 1912, T., 1427; P., 137.
- resolution of, by *l*-menthylcarbimide (PICKARD and LITTLEBURY), 1906, T., 1254; P., 238.

- Tetrahydro- $\alpha$ -naphthylamine**, and 4-bromo-, and its acyl derivatives (MORGAN, MICKLETHWAIT, and WINFIELD), 1904, T., 736; P., 109.
- azo-colouring matters from (MORGAN and RICHARDS), 1905, A., i, 616.
- ac*-**Tetrahydro- $\beta$ -naphthylamine**, oxidation of (BAMBERGER and SELIGMAN), 1903, A., i, 324.
- pharmacological investigation of (JONESCU), 1909, A., ii, 599.
- action of, on the body-temperature and circulation (SACHAROFF), 1910, A., ii, 483.
- influence of, on temperature and respiratory exchange (MUTCH and PEMBREY), 1911, A., ii, 1017.
- hydrochloride, effect of injecting (BLACK), 1911, A., ii, 636.
- ar*-**Tetrahydro- $\beta$ -naphthylamine**, reaction of, with formaldehyde (SMITH), 1904, T., 732; P., 111.
- ar*-**Tetrahydro- $\beta$ -naphthylamine**, 1- and 4-bromo-, and their acetyl derivatives (SMITH), 1904, T., 728; P., 110.
- Tetrahydronaphthylamines**, mercury double salts of (GROHMANN and BROUWER), 1909, A., i, 221.
- ar*-**Tetrahydro- $\alpha$ -naphthylamine-4-azobenzene-4'-sulphonic acid** and its reduction (MORGAN, MICKLETHWAIT, and WINFIELD), 1904, T., 754.
- ac*-**Tetrahydro- $\beta$ -naphthylamino- $\alpha$ -methylenecamphor** (POPE and READ), 1909, T., 180.
- ar*-**Tetrahydro- $\alpha$ -naphthylamine-4-sulphonic acid** and the action of *p*-nitrobenzenediazonium chloride on (MORGAN, MICKLETHWAIT, and WINFIELD), 1904, T., 755; P., 110.
- trans*-**Tetrahydronaphthylene glycol** and its diacetate, dibenzoate, and diphenylurethane (LEROUX), 1909, A., i, 299.
- Tetrahydronaphthylene glycols** (*cis* and *trans*) and their combination (LEROUX), 1909, A., i, 299.
- Tetrahydronarcotine**, and its salts and derivatives (FINZI and FREUND), 1912, A., i, 897.
- Tetrahydro-oxazoles**, formation of (CROWTHER and McCOMBIE), 1912, P., 315.
- Tetrahydropalmatine** and its aurichloride (FEIST), 1908, A., i, 103.
- Tetrahydropapaverine** and its salts (PYMAN), 1909, T., 1614; P., 217.
- iso*-**Tetrahydropapaverine** and its salts and nitrosoamine (FREUND and BECK), 1904, A., i, 917.
- Tetrahydropapaveroline**, physiological action of (LAIDLAW), 1910, A., ii, 797.
- hydrochloride (PYMAN), 1909, T., 1619.
- 2:7:9:10(or 4:5:9:10)-Tetrahydrophenanthrenes**,  $\alpha$ - and  $\beta$ - (SCHMIDT and MEZGER), 1907, A., i, 1023.
- 1:2:3:4-Tetrahydrophenazine**, 1-oximino- (BORSCHKE), 1910, A., i, 179.
- Tetrahydrophthalic acids**. See *cyclo*-Hexenedicarboxylic acids.
- cis*- $\Delta^3$ -**Tetrahydrophthalic anhydride** and *di*bromo- (ABATI and DE BERNARDINIS), 1905, A., i, 599.
- affinity constants of (ABATI), 1906, A., i, 959.
- Tetrahydrophthalic anhydrides**, velocity of addition of bromine to (ABATI and SOLIMENE), 1909, A., i, 104.
- Tetrahydropiperic acid** (PAAL), 1912, A., i, 703.
- and its derivatives (BORSCHKE), 1911, A., i, 1018.
- Tetrahydropiperine** (SKITA and FRANCK), 1911, A., i, 1017.
- Tetrahydropyridine**. See Piperidine.
- Tetrahydro-6-pyrimidone-5-acetic acid**, 2-thio-, and its ethyl ester (JOHNSON, PECK, and AMBLER), 1911, A., i, 576.
- Tetrahydro-6-pyrimidone-5-carboxylic acid**, 2-thio- (JOHNSON and AMBLER), 1911, A., i, 576.
- Tetrahydropyryone compounds** (PETRENKO-KRITSCHENKO and DEMENTEYEFF), 1903, A., i, 560.
- bromination of (SCHTVAN), 1909, A., i, 504.
- Tetrahydropyrrolidene-5-cyanoacetic acid**, 2-imino-, ethyl ester (BEST and THORPE), 1909, T., 1530.
- Tetrahydroquinaldine**. See 2-Methyl-tetrahydroquinoline.
- Tetrahydroquinazoline** and its salts (GABRIEL), 1903, A., i, 446.
- Tetrahydroquinazolinebenzoic acid** (GABRIEL), 1912, A., i, 392.
- 1:2:3:4-Tetrahydro-1:3-quinazoline-2:4-dione** (*benzoylphenacetylamide*) (DIELS and WAGNER), 1912, A., i, 512.
- and 6-bromo- (HASLINGER), 1908, A., i, 454.
- synthesis of (FINGER and ZEH), 1910, A., i, 382; (FINGER and GÜNZLER), 1911, A., i, 237.
- derivatives of (KUNCKELL), 1905, A., i, 382.
- See also under Diketo-.
- 1:2:3:4-Tetrahydro-1:3-quinazoline-2:4-dione**, 3-amino-, and its derivatives (KUNCKELL), 1910, A., i, 438.

- 1:2:3:4-Tetrahydro-1:3-quinazoline-2:4-dione**, 5:6:7-*tri*hydroxy- (POLLAK and GOLDSTEIN), 1907, A., i, 321.
- Tetrahydroquinoline** and its salts (FREUND and RICHARD), 1909, A., i, 417.
- action of allyl iodide on (WEDEKIND), 1905, A., i, 234.
- action of formaldehyde on (WEERMAN), 1906, A., i, 696.
- conversion of, into 2-methyldihydroindole (v. BRAUN and STEINDORFF), 1905, A., i, 156.
- derivatives of (KUNCKELL), 1910, A., i, 429, 635; (KUNCKELL and THEOPOLD), 1910, A., i, 506.
- ferriehloride (SCHOLTZ), 1910, A., i, 97.
- phenylthiocarbamide of (v. BRAUN and DEUTSCH), 1912, A., i, 845.
- Tetrahydroquinoline**, bromo-, and its acetyl derivative and their salts (KUNCKELL and THEOPOLD), 1905, A., i, 297.
- 6-bromo-, salts of, 6-bromo-8-amino-, and its derivatives, 6-bromo-8-nitro- and its nitrosoamine, 6:8-dinitro- and *tribromo*-, hydrobromide (KUNCKELL), 1910, A., i, 429.
- 1-cyano-, and its phenyl and *p*-tolyl derivatives (v. BRAUN), 1909, A., i, 604.
- trinitro*- (KUNCKELL), 1910, A., i, 636.
- Tetrahydroisoquinoline**, 7-hydroxy-, and its salts (PICTET and SPENGLER), 1911, A., i, 750.
- Tetrahydroquinoline ring** and piperidine ring, relative stability of (v. BRAUN), 1909, A., i, 604.
- Tetrahydroisoquinoline-2-acetic acid**, ethyl ester (WEDEKIND and OECHSLEN), 1903, A., i, 517.
- hydriodide of (WEDEKIND), 1905, A., i, 235.
- Tetrahydroquinoline-1-carboxylic acid** and 6:8-dinitro-, methyl and ethyl esters (VAN DORP), 1905, A., i, 81.
- Tetrahydroisoquinoline-2-carboxylic acid**, and 7-hydroxy- (PICTET and SPENGLER), 1911, A., i, 750.
- Tetrahydro-2-quinolone**, 6:8-dinitro- (VAN DORP), 1905, A., i, 81.
- 4-Tetrahydroquinolylpropionic acid** and nitroso- (KOENIGS and MÜLLER), 1904, A., i, 527.
- Tetrahydroquinonedicarboxylic acid**, ethyl ester, synthesis of (TREFILIEFF), 1906, A., i, 511.
- Tetrahydrosalicilic esters**, action of ammonia and amines on (KÖTZ and MERKEL), 1909, A., i, 157.
- Tetrahydrosantalene** (SEMMLER), 1910, A., i, 181.
- Tetrahydroterephthalic acids**. See *cyclo*-Hexene-1:4-dicarboxylic acids.
- Tetrahydrotetrazine**, *dis*onitroso-, ammonium and metallic derivatives (WIELAND), 1905, A., i, 421.
- Tetrahydrothiophen**, preparation of, and its methiodide (v. BRAUN and TRÜMPLER), 1910, A., i, 275.
- 2-(Tetrahydro-2'-thio-6'-pyrimidone-thiol)-1:6-dihydro-6-pyrimidone** (JOHNSON and SHEPARD), 1911, A., i, 924.
- $\Delta^1$ -**Tetrahydro-*p*-tolualdehyde** and its oxime and semicarbazone (WALLACH and EVANS), 1906, A., i, 566.
- $\Delta^1$ -**Tetrahydro-*o*- and -*m*-tolualdehydes** and their oximes and semicarbazones (WALLACH and BESCHKE), 1906, A., i, 565.
- Tetrahydrotoluenes**. See *Methylcyclo*-hexenes.
- Tetrahydrotoluic acids**. See *Methylcyclo*hexenecarboxylic acids.
- Tetrahydro-*p*-toluquinaldine**, resolution of, into its optically active components (POPE and BECK), 1907, T., 458; P., 15.
- Tetrahydroumbellulol** (LEES), 1904, T., 644; P., 89.
- Tetrahydroumbellulone** and its semicarbazones (TUTIN), 1906, T., 1119.
- Tetrahydroumbellulylamine**, amino-, and its sulphate, dibenzoate, dihydrochloride, and dibenzoyl derivative (TUTIN), 1907, T., 276; P., 29.
- Tetrahydrouric acid**, synthesis of (FRANKLAND), 1910, T., 1316; P., 171.
- iso*-**Tetrahydrouric acid** (TAFEL and HOUSEMAN), 1907, A., i, 984.
- Tetra-2:4-dihydroxytritanol**, derivatives of (v. LIEBIG), 1908, A., i, 447.
- m*-**Tetra-2:6-dihydroxytritanol**, derivatives of (v. LIEBIG and HÜRT), 1907, A., i, 45.
- Tetraketo-2:5-dianilopiperazine** (DE MOUILPIED and RULE), 1909, T., 551.
- 2:4:6:8-Tetraketo-3:8-diphenyloctahydro-1:3:6:9-naphthatetrazine** (BOGERT and KROFF), 1909, A., i, 844.
- 2:4:7:9-Tetraketo-3:8-diphenyloctahydro-1:3:6:8-naphthatetrazine** (BOGERT and NELSON), 1907, A., i, 661.
- Tetraketo-2-phenyltetrahydro-2:1:3-benzotriazole** (ZINCKE and SCHARFF), 1910, A., i, 141.
- Tetraketopiperazine** and its compounds with sodium amyloxide, ethoxide, and phenoxide (DE MOUILPIED and RULE), 1909, T., 549; P., 71.



- Tetraketopiperazine**, formation of, and its hydrazone and salts (DE MOULPIED and RULE), 1907, T., 176; P., 13.
- Tetraketotetramethyloctahydroxanth-hydrol**, *tetrabromo-*, methyl ether (WENZEL and SCHREIER), 1904, A., i, 914.
- Tetrakisazobenzene** (GREEN and ROWE), 1912, T., 2004; P., 233.
- Tetrame-4-carboxylic acid** and its potassium salt (BENARY), 1911, A., i, 672.
- 2:3:4:5-Tetramethoxy-1-allylbenzene** (THOMS), 1906, A., i, 902.
- Tetramethoxyanthraquinone** (BENTLEY and WEIZMANN), 1908, T., 437; P., 52.
- 1:3:5:7-Tetramethoxyanthraquinone** and its salts (FISCHER, ZIEGLER, and GROSS), 1912, A., i, 765.
- 1:4:5:8-Tetramethoxyanthraquinone** and its salts (FISCHER and ZIEGLER), 1912, A., i, 765.
- 2:4:2':4'- and 3:4:3':4'-Tetramethoxyazobenzenes** (KAUFFMANN and KÜGEL), 1911, A., i, 930.
- 3:4:3':4'-Tetramethoxybenzhydrol** (KÖNIG and v. KOSTANECKI), 1907, A., i, 62.
- Tetramethoxybenzyl** (FRITSCH), 1904, A., i, 95.
- 2:3:4:5-Tetramethoxybenzoic acid** (THOMS), 1908, A., i, 902.
- Tetramethoxybenzoic acid**, lactone of (PERKIN and ROBINSON), 1909, T., 405.
- 2:4:5:4'-Tetramethoxybenzophenone** and its phenylhydrazone (BARGELLINI and MARTEGIANI), 1911, A., i, 966.
- 2:5:2':5'-Tetramethoxybenzophenone** and its oxime and phenylhydrazone (KAUFFMANN and GROMBACH), 1906, A., i, 288.
- 2:6:2':6'-Tetramethoxybenzophenone** (v. BAeyer, AICKELIN, DIEHL, HALLEN-SLEBEN, and HESS), 1910, A., i, 252.
- 3:4:3':4'-Tetramethoxybenzophenone** and its oxime (PERKIN, WEIZMANN, and SMITH), 1906, T., 1661.
- 2:4:2':4'- and 3:4:2':4'-Tetramethoxybenzophenones** (TAMBOR and SCHÜRCH), 1910, A., i, 559.
- 2:4:3':4'- and 2:5:3':4'- and their leuco-derivatives** (KÖNIG and v. KOSTANECKI), 1907, A., i, 62.
- 2:4:6:4'- and 3:4:3':4'-, synthesis of** (v. KOSTANECKI and TAMBOR), 1907, A., i, 75.
- Tetramethoxy-2-benzoylbenzoic acid** and hydroxy- (BENTLEY and WEIZMANN), 1908, T., 437; P., 52.
- 5:2':3':4'-Tetramethoxy-1-benzoyl-2:3-dimethoxycoumarone** (TAMBOR, GÜNSBERG, KELLER, CHANSCHY-HERZENBERG, ROSENKNOPF, and LICHTENBAUM), 1912, A., i, 45.
- 5:2':4':6'-Tetramethoxy-1-benzoyl-2:3-dimethylcoumarone** (TAMBOR, GÜNSBERG, KELLER, CHANSCHY-HERZENBERG, ROSENKNOPF, and LICHTENBAUM), 1912, A., i, 45.
- 5:2':4':6'- and 5:2':3':4'-Tetramethoxy-1-benzoyl-2-methylcoumarones** (TAMBOR, GÜNSBERG, KELLER, CHANSCHY-HERZENBERG, ROSENKNOPF, and LICHTENBAUM), 1912, A., i, 45.
- 2':4':5:6-Tetramethoxy-2-benzyl-1-hydrindene** (PERKIN and ROBINSON), 1907, T., 1101.
- Tetramethoxybenzylidenecoumaranones**, 1:3:2':3', 1:3:2':4', and 1:3:3':4' (DUMONT and TAMBOR), 1910, A., i, 579.
- 2':4':5:6-Tetramethoxy-2-benzylidene-1-hydrindone** (PERKIN and ROBINSON), 1907, T., 1101.
- 1:2:7:8-Tetramethoxybrazan**, 5(or 10)-hydroxy-, and its acetyl derivative (v. KOSTANECKI and ROST), 1903, A., i, 646.
- 2:7:8:5(or 10)-Tetramethoxybrazan** (v. KOSTANECKI and LLOYD), 1903, A., i, 645.
- 1:2:7:8-Tetramethoxybrazanquinone** (v. KOSTANECKI and ROST), 1903, A., i, 646.
- Tetramethoxy- $\alpha$ -brazanquinone** (PERKIN and ROBINSON), 1909, T., 399.
- Tetramethoxy- $\alpha$ -brazotoluquininoxaline** (PERKIN and ROBINSON), 1909, T., 399.
- Tetramethoxycaffeine** (FISCHER and ACH), 1906, A., i, 220.
- 2':3':4':6'-Tetramethoxychalkone** (BARGELLINI and BINI), 1911, A., i, 212.
- 3:4:3':4'-Tetramethoxychalkone**, 2'-hydroxy-, and its acetyl derivative (v. KOSTANECKI and RUDSE), 1905, A., i, 367.
- 4:2':4':5'-Tetramethoxychalkone** (BARGELLINI and AVRUTIN), 1911, A., i, 68.
- Tetramethoxychalkones**, 2:4:4':6'-, and 3:4:4':6'-, 2'-hydroxy-, and their acetyl derivatives (v. KOSTANECKI and TAMBOR), 1904, A., i, 426.
- Tetramethoxycoumaroneisocoumarin hydrobromide** (PERKIN and ROBINSON), 1909, T., 407.
- Tetramethoxydeoxybenzoin** and its oxime and acetalamine (FRITSCH), 1904, A., i, 95.

- 4:5:4':5'-Tetramethoxydibenzyl, 2:2'-*di*-nitro- (HERZIG and POLLAK), 1903, A., i, 713.
- 2:5:2':5'-Tetramethoxydibenzylidene-azine and its salts (KAUFFMANN and BURR), 1907, A., i, 606.
- 2:5:2':5'-Tetramethoxydiphenyl (ULLMANN), 1904, A., i, 728.
- Tetramethoxydiphenylanthrone** (SCHARWIN, KUSNEZOFF, NAUMOFF, GANDURIN, BJENKOFF, and DMITRIEFF), 1911, A., i, 656.
- 2:6:2':6'-Tetramethoxydiphenylcarbinol (V. BAEYER, AICKELIN, DIEHL, HALLENSLEBEN, and HESS), 1910, A., i, 251.
- 2:4:2':4'-Tetramethoxydiphenyl*tri*-chloroethane, 3:3'-*di*nitro- (KAUFFMANN and FRANCK), 1907, A., i, 1093.
- 2:5:2':5'-Tetramethoxy-diphenylethylcarbinol and -*aa*-diphenylpropylene and its bromo-derivative (KAUFFMANN and GROMBACH), 1906, A., i, 288.
- Tetramethoxydiphenylphthalide** (PERKIN and WEIZMANN), 1906, T., 1657.
- mm'pp'*-Tetramethoxy-2:5-diphenylpyrazine and its salts (TUTIN), 1910, T., 2510; P., 244; (TUTIN and CATON), 1910, T., 2533; P., 245.
- mm'pp'*-Tetramethoxy-2:6-diphenylpyrazine and its salts (TUTIN), 1910, T., 2511; P., 244; (TUTIN and CATON), 1910, T., 2533; P., 245.
- 2:6:2':6'-Tetramethoxy-*s*-diphenylthiocarbamide (KAUFFMANN and FRANCK), 1907, A., i, 1093.
- 5:7:2':4'-Tetramethoxyflavanone and 3-*isonitroso*- (V. KOSTANECKI, LAMPE, and TAMBOR), 1906, A., i, 301.
- 5:7:3':4'-Tetramethoxy-flavanone and 3:6:8-*tri*bromo-, and -flavone, 6:8-*di*bromo- (FAINBERG and V. KOSTANECKI), 1904, A., i, 682.
- 5:7:3':4'-Tetramethoxy-flavanone and *isonitroso*-, and -flavonol (V. KOSTANECKI, LAMPE, and TAMBOR), 1904, A., i, 517.
- 7:8:3':4'-Tetramethoxy-flavanone and *isonitroso*-, and -flavonol and its acetyl derivative (V. KOSTANECKI and RUDSE), 1905, A., i, 367.
- 7:8:4':5'-Tetramethoxy-4:3-indenobenzoz-1:4-pyranol, anhydroferrichloride (ENGELS, PERKIN, and ROBINSON), 1908, T., 1152.
- Tetramethoxyindigotin** (HAYDUCK), 1903, A., i, 826.
- Tetramethoxy-4'-methylbenzophenones**, 3:4:5:1'- and 2:3:4:3'- (PERKIN, WEIZMANN, and HAWORTH), 1906, T., 1663.
- 2:4:3':4'-Tetramethoxy-6-methylbenzoylacetophenone (TAMBOR), 1908, A., i, 350.
- 2:6:3':4'-Tetramethoxy-4-methylbenzoylacetophenone (TAMBOR), 1908, A., i, 359.
- 1:4:5:6-Tetramethoxynaphthalene (PERKIN and WEIZMANN), 1906, T., 1658.
- Tetramethoxyphenanthrene** and its picate (PSCHORR and RETTBERG), 1910, A., i, 424.
- 3:4:5:6-Tetramethoxyphenanthrene-8-carboxylic acid (GADAMER), 1912, A., i, 47.
- 3:4:6:8-Tetramethoxyphenanthrene-9-carboxylic acid and its methyl ester (PSCHORR and KNÖFFLER), 1911, A., i, 669.
- $\alpha$ :4:5:5'-Tetramethoxy- $\beta$ '-phenoxy- $\beta$ -phenyl*isobutyric* acid, 2:2'-*di*hydroxy-, lactone of (ENGELS, PERKIN, and ROBINSON), 1908, T., 1161.
- 2:3:6:7-Tetramethoxyphenylxanthenol and its derivatives (KEHRMANN and GÜNTHER), 1912, A., i, 1012.
- 2:3:6:7-Tetramethoxy-9-phenylxanthonium salts (KEHRMANN and GÜNTHER), 1912, A., i, 1012.
- 2:5:2':5'-Tetramethoxystilbene (KAUFFMANN and BURR), 1907, A., i, 609.
- 4:4':4''-4'''-Tetramethoxytetraphenylethylene (STAUDINGER, CLAR, and CZAKO), 1911, A., i, 625.
- Tetramethoxytolane** and its dibromo-derivative (FRITSCH), 1904, A., i, 94.
- 2:4:2':4'-Tetramethoxytriphenylcarbinol (KAUFFMANN and KIESER), 1912, A., i, 854.
- 2:5:2':5'-Tetramethoxytriphenylcarbinol (KAUFFMANN and FRITZ), 1909, A., i, 99.
- 2:4:2':4'-Tetramethoxytriphenylmethane (KAUFFMANN and KIESER), 1912, A., i, 854.
- 2:5:2':5'-Tetramethoxytriphenylmethane (KAUFFMANN and FRITZ), 1909, A., i, 99.
- 3:4:5:6-Tetramethoxy-8-vinylphenanthrene and its bromo-derivatives (GADAMER), 1912, A., i, 47.
- Tetramethoxy-*o*-vinylstilbene.** See Laudanosen.
- Tetramethyl ferrocyanide** and its derivatives (HARTLEY), 1910, T., 1066, 1725; P., 90, 210.
- $\alpha\alpha\gamma\gamma$ -Tetramethylacetoacetic acid, ethyl ester, and its semicarbazide (SALKIND), 1907, A., i, 22; (ZELTNER and REFORMATSKY), 1907, A., i, 23.

$\gamma\gamma\gamma$ -Tetramethylacetoacetic acid and its ethyl ester (WAHLBERG), 1911, A., i, 707.

**Tetramethylacetone**, *dihydroxy-* (HENRY), 1907, A., i, 587; (LEMAIRE), 1909, A., i, 199.

**2:3:7:8-Tetramethylacridine** and its aurichloride, platinichloride, and salicylate (SENIER and COMPTON), 1909, T., 1626; P., 220.

**Tetramethylacridines** (SENIER and COMPTON), 1909, T., 1623; P., 220. 1:3:7:9- and 1:4:6:9- and their additive salts (SENIER and COMPTON), 1907, T., 1929; P., 247.

**1:3:6:8-Tetramethylallantoin**, and 7-thio- (BILTZ and KREBS), 1911, A., i, 242.

$\alpha\gamma$ -Tetramethyldiamino- $\beta$ -amino- and - $\beta$ -nitro-propanes (DUDEN, BOCK, and REID), 1905, A., i, 568.

**1:5-Tetramethyldiaminoanthraquinone**, bromo-derivatives (FARBENFABRIKEN VORM. F. BAYER & Co.), 1904, A., i, 326.

**Tetramethyldiaminoanthraquinones**, 1:5- and 1:8- (FARBENFABRIKEN VORM. F. BAYER & Co.), 1903, A., i, 499.

$p$ -**Tetramethyldiaminoanthrarufin** (FARBENFABRIKEN VORM. F. BAYER & Co.), 1903, A., i, 499.

**4:4'-Tetramethyldiamino-2:2'-azodiphenylmethane** (DUVAL), 1909, A., i, 747.

$N$ -**Tetramethyltetraaminoazonium** chloride, chloro-, and its additive salts (FISCHER), 1904, A., i, 350.

**Tetramethyl-2:4-diaminobenzaldehyde** and its salts (SACHS and APPENZELLER), 1908, A., i, 186.

**Tetramethyldiaminobenzhydrol**, electrolytic preparation of (ESCHERICH and MOEST), 1903, A., i, 89. replacement of hydroxyl in, by the alkylmethylene radicle (FOSSE), 1908, A., i, 568.

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**Tetramethyldiaminobenzhydrol**, action of, on *m*-ethoxybenzoic acid and its amide, methylamide, and dimethylamide (FRITSCH), 1904, A., i, 58.

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**Tetramethyldiaminobenzhydrol**, 2- and 3-amino-, *N*-acyl derivatives of (KLEGL), 1906, A., i, 434.

**Tetramethyldiaminobenzhydrylphosphinous acid** (FOSSE), 1910, A., i, 451.

**Tetramethyl-*pp'*-diaminobenzil** and its ozazone (STAUDINGER and STOCKMANN), 1909, A., i, 797.

**2:2'-Tetramethyldiaminobenzophenone** (v. BAEYER), 1905, A., i, 766.

**4:4'-Tetramethyldiaminobenzophenone** (v. GEORGIEVICS), 1905, A., i, 357.

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**Tetramethyldiamino-benzophenones and -benzhydrols**, 3:3'- and 3:4'- (v. BAEYER), 1907, A., i, 761.

**Tetramethyl-*p*-diaminobenzylbenzhydrol** (GUYOT and PIGNET), 1908, A., i, 569.

**Tetramethyl-2:4-diaminobenzylideneacetophenone**, -cyanoacetic acid, ethyl ester, -hydrazine, -malononitrile, -*p*-nitrobenzyl cyanide, and -rhodanic acid (SACHS and APPENZELLER), 1908, A., i, 187.

**4-Tetramethyl-2':4'-diaminobenzylidene-1-phenyl-3-methyl-5-pyrazolone** (SACHS and APPENZELLER), 1908, A., i, 187.

**Tetramethyldiaminobenzylphenylsulphone** (BINZ and ISAAC), 1908, A., i, 940.

**Tetramethyldiaminobutane** and its additive salts (WILSLATYER and HEUBNER), 1907, A., i, 959.

$\alpha\delta$ -**Tetramethyldiamino- $\Delta^8$ -butene** (WILSLATYER and v. SCHMADEL), 1905, A., i, 514.

$\alpha\epsilon$ -**Tetramethyldiaminodecane** and its salts (v. BRAUN), 1912, A., i, 165.

$p$ -**Tetramethyldiaminodi-*p*-anilino-*m*-dihydroxydiphenylmethane** (GNEHM and WEBER), 1904, A., i, 533.



- 4:4'-Tetramethyldiamino-2'''-3'''-dimethoxytriphenylmethane and its hydrochloride (NOELTING), 1910, A., i, 177.
- Tetramethyldiaminodimethylethylcarbinol and its esters and their additive salts (FARBENFABRIKEN VORM. F. BAYER & CO.), 1906, A., i, 936.
- Tetramethyldiaminodimethylethylcarbinyl benzoate. See Alpyne.
- 4:4'-Tetramethyldiaminodiphenyl. See Tetramethylbenzidine.
- 9:9-Tetramethyldiaminodiphenylacenaphthenone and its salts (ZSUFFA), 1910, A., i, 862.
- Tetramethyldiaminodiphenylacridylmethane and its quinonoid base (PORAI-KOSCHITZ, AUSCHKAP, and AMSLER), 1912, A., i, 223.
- Tetramethyl-*p*-diamino-*p*-diphenyl-*p*-diamino-*m*-dihydroxydiphenylmethane (GNEHN and WEBER), 1904, A., i, 533.
- Tetramethyldiaminodiphenylaminonaphthylmethane and its acetyl, alkyl, and aryl derivatives (NOELTING), 1904, A., i, 621.
- Tetramethyldiaminodiphenyldiaminonaphthylmethane and its diacetyl derivative (NOELTING), 1904, A., i, 622.
- Tetramethyldiaminodiphenylanthrone (HALLER and GUYOT), 1903, A., i, 348.
- Tetramethyldiaminodiphenyldichloromethane (STAUDINGER), 1909, A., i, 907.
- 9:10-Tetramethyldiaminodiphenyl-9:10-diphenyldihydroanthracene and its isomeride (HALLER and GUYOT), 1905, A., ii, 270.
- 9:10-Tetramethyldiaminodiphenyl-9:10-diphenyl-2-methyldihydroanthracenes, *cis*- and *trans*-, and their salts (GUYOT and STAHLING), 1905, A., i, 886.
- $\alpha\epsilon$ -Tetramethyl-*pp'*-diaminodiphenyl- $\gamma$ -diphenylmethylene- $\Delta^{\alpha\delta}$ -pentadiene (STAUDINGER and KON), 1911, A., i, 879.
- 3:8-Tetramethyldiaminodiphenyleneazone and its oxide (ULLMANN and DIETERLE), 1904, A., i, 269.
- pp'*-Tetramethyldiaminodiphenylethane, -hexylene, and -phenylethane (BUSIGNES), 1909, A., i, 736.
- Tetramethyldiaminodiphenyl-ethylene, propane, and -propylene (FREUND and MAYER), 1906, A., i, 384.
- as*-Tetramethyldiaminodiphenylethylene and its carbinol (FECHT), 1907, A., i, 927.
- Tetramethyldiaminodiphenylglycineamide (HINSBERG), 1908, A., i, 453.
- Tetramethyldiaminodiphenylglycollic acid, ethyl ester (GUYOT), 1907, A., i, 640, 641.
- Tetramethyldiaminodiphenylcyclohexylenemethane, preparation of (LEMOULT), 1912, A., i, 725.
- Tetramethyl-*p*-diaminodiphenyl ketone hydrazone and its benzylidene derivative and ketazine (WIELAND and ROSEEU), 1911, A., i, 572.
- tetrahydrochloride (KAUFLE and KUNZ), 1909, A., i, 137.
- Tetramethyldiaminodiphenylmalonic acid, methyl and ethyl esters (GUYOT and MICHEL), 1909, A., i, 158.
- 4:4'-Tetramethyldiaminodiphenylmethane, constitution of the methylene derivatives of (FOSSE), 1908, A., i, 568.
- use of, in qualitative analysis (CARNEY), 1912, A., ii, 298.
- trihydrobromide (KAUFLE and KUNZ), 1909, A., i, 556.
- tetrahydrochloride (KAUFLE and KUNZ), 1909, A., i, 137.
- dioxide and its derivatives (BAMBERGER and RUDOLF), 1908, A., i, 1011.
- 4:4'-Tetramethyldiaminodiphenylmethane, 2:2'-*di*-iodo- (MASCARELLI, TOSCHI, and ZAMBONINI), 1910, A., i, 831.
- 2-nitro- (EPSTEIN), 1903, A., i, 580.
- Tetramethyldiaminodiphenylmethane-*m*-sulphonic acid and its sodium salt (AKTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION), 1907, A., i, 969.
- 5-(4':4'')-Tetramethyldiaminodiphenylmethyl-3:3-bis-*p*-dimethylaminophenyloxindole (REITZENSTEIN and BREUNING), 1910, A., i, 441.
- 5-(4':4'')-Tetramethyldiaminodiphenylmethylisatin and its acetyl derivative and chloride (REITZENSTEIN and BREUNING), 1910, A., i, 440.
- 4(or 6)-4':4''-Tetramethyldiaminodiphenylmethyl-5-methylisatin and its sodium salt (REITZENSTEIN and BREUNING), 1910, A., i, 441.
- 5-(4':4'')-Tetramethyldiaminodiphenylmethyl-7-methylisatin (REITZENSTEIN and BREUNING), 1910, A., i, 441.
- 8-Tetramethyldiaminodiphenylmethyl-1-naphthoic acid, and its barium salt (ZSUFFA), 1910, A., i, 862.
- Tetramethyldiaminodiphenyl- $\alpha$ -naphthylmethane (ZSUFFA), 1910, A., i, 862.

- 9:10-Tetramethyldi-*p*-aminodiphenyl-9-phenyl-10- $\alpha$ -naphthyl-dihydroanthracene** (GUYOT and STAEHLING), 1905, A., i, 887.
- pp*-**Tetramethyldiaminodiphenyl- $\beta$ -propionic acid** (FOSSE), 1906, A., i, 976.
- 4:4''-Tetramethyldiaminodiphenyl-*o*-tolylmethane**, 3- and 4-amino-, and their oxidation (BIELECKI and KOLENIEW), 1908, A., i, 698.
- p*-**Tetramethyldiaminodistyryl ketone** (SACHS and LEWIN), 1903, A., i, 38.
- Tetramethyldiaminodi-*o*-tolylcarbinol** and its picrate (RASSOW and REUTER), 1912, A., i, 586.
- Tetramethyldiaminoditolylhydrol**, condensation of, with aromatic bases (REITZENSTEIN and RUNGE), 1905, A., i, 301.
- Tetramethyldiaminodi-*o*-tolyl ketone** and its salts (RASSOW and REUTER), 1912, A., i, 586.
- Tetramethyldiamino-*m*-ethoxytriphenylmethane** and its *o*-carboxylic acid and its amides and their oxidation products (FRITSCH), 1904, A., i, 58.
- Tetramethyldiaminofuchson** (SCHLENK and KNORR), 1904, A., i, 808.
- an*-**Tetramethyldiaminoheptane** and its salts (v. BRAUN), 1912, A., i, 165.
- Tetramethyl- $\alpha$ -diaminohexane**, and its picrate and methiodide (v. BRAUN), 1910, A., i, 821.
- Tetramethyldiamino- $\Delta^2$ -cyclohexene** and its salts (WILLSTÄTTER and HATT), 1912, A., i, 545.
- pp*-**Tetramethyldiamino-2:4:6:8-tetrahydroxy-3:7-dibenzylanthraquinone** (FARBWERKE FORM. MEISTER, LUCIUS, & BRÜNING), 1907, A., i, 1086.
- 4:4''-Tetramethyldiamino-2'''-hydroxy-3'''-methoxytriphenylmethane** and its hydrochloride (NOELTING), 1910, A., i, 177.
- 4:4'-Tetramethyldiamino-4''-methyltriphenylmethane**, 3''-amino-, and 5''-amino-, compounds of, with propargaldehyde (REITZENSTEIN and BÖNITSCH), 1912, A., i, 663.
- Tetramethyldiaminocyclooctadiene** and its salts (WILLSTÄTTER and WASER), 1912, A., i, 19.
- Tetramethyldiaminocyclooctane** (WILLSTÄTTER and WASER), 1912, A., i, 19.
- Tetramethyldiaminopentane** and its salts (v. BRAUN), 1912, A., i, 165.
- 3:9-Tetramethyldiaminophenoxazonium** nitrate and platinichloride (KEHRMANN and POPLAWSKI), 1909, A., i, 516.
- Tetramethyldiaminophenylbenzylsulfone**, nitronitroso-, formula of (BINZ), 1909, A., i, 144.
- Tetramethyldiaminophenyldimethylcarbinyl** (FARBENFABRIKEN FORM. F. BAYER & Co.), 1906, A., i, 936.
- Tetramethyldiaminophenyldimethylcarbinyl benzoate hydrochloride** (FARBENFABRIKEN FORM. F. BAYER & Co.), 1906, A., i, 936.
- as*-**Tetramethyldiaminophenyldiphenylenemethane** (GUYOT and GRANDERYE), 1903, A., i, 748 ; 1905, A., i, 248.
- Tetramethyltriaminophenyldi-*o*-tolylcarbinol** and its hydrochloride (RASSOW and REUTER), 1912, A., i, 586.
- Tetramethyldiaminophenyl-ethylcarbinol** and -hydroxytrichloroethane (SACHS and APPENZELLER), 1908, A., i, 187.
- Tetramethyldiaminophenyl-*m*-methyl- and -*m*-nitro-diphenylenemethanes** (GUYOT and GRANDERYE), 1905, A., i, 248.
- Tetramethyldiaminophenylloxanthranol**, condensation products of, with benzene, dimethylaniline, and toluene (HALLER and GUYOT), 1904, A., i, 83.
- derivatives of (GUYOT and STAEHLING), 1904, A., i, 346.
- Tetramethyldiaminophenylphenylenenaphthylenemethane** (GUYOT and GRANDERYE), 1905, A., i, 248.
- 4:4'- and 4:6'-Tetramethyldiaminophenyl-*m*-tolylmethanes** and their salts (v. BRAUN and KRUBER), 1912, A., i, 970.
- Tetramethyl-*pp'*-diaminotetraphenylethylene** (STAUDINGER and KON), 1911, A., i, 879.
- and its salts, glycol, and **3:3'-disulphonic acid** and its salts (WILLSTÄTTER and GOLDMANN), 1906, A., i, 980.
- Tetramethyldiaminothiobenzophenone** (LAMBERT and WEIL), 1905, A., i, 243.
- Tetramethyldiaminotriphenylacetic acid**, ethyl ester (HALLER and GUYOT), 1907, A., i, 565.
- Tetramethyldiaminotriphenylcarbinol**, 3:4-dihydroxy-, and its diacyl derivatives (LIEBERMANN), 1903, A., i, 861.
- Tetramethyldiaminotriphenylcarbinols** (v. BAeyer), 1907, A., i, 761.
- Tetramethyldiaminotriphenylcarbothiol** and its analogue (LAMBERT and WEIL), 1905, A., i, 243.

**Tetramethyldiaminotriphenylmethane**, *di*- and *tri*-hydroxy- (VOTOČEK and KRAUZ), 1909, A., i, 518.

**2:4-Tetramethyldiaminotriphenylmethane** (SACHS and APPENZELLER), 1908, A., i, 188.

**3:4'-Tetramethyldiaminotriphenylmethane** (V. BAEYER), 1907, A., i, 761.

**4:4'-Tetramethyldiaminotriphenylmethane** dioxide and its derivatives (BAMBERGER and RUDOLF), 1908, A., i, 1012.

**4:4''-Tetramethyldiaminotriphenylmethane**, 3:4-*di*- and 3:4:2':2''-*tetra*-hydroxy-, and their acyl derivatives (LIEBERMANN), 1903, A., i, 860.

**4:4'-Tetramethyldiaminotriphenylmethane-3''-azophenol**, sodium salt (REITZENSTEIN and BONITSCH), 1912, A., i, 740.

*pp'* **Tetramethyldiaminotriphenylmethane-*m*-carboxylic acid** (SIMONIS, BOEHME, and BENENSON), 1912, A., i, 565.

**Tetramethyl*di*-*p*-aminotriphenylmethylamine** (VILLIGER and KOPETSCHNI), 1912, A., i, 1030.

**Tetramethylammonium**, preparation of (PALMAER), 1903, A., i, 12.

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*s-di- $\omega$ -cyano-* (V. BRAUN), 1908, A., i, 608.

*perchlorate* (HOFMANN, ROTH, HÖBOLD, and METZLER), 1910, A., i, 818.

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$\beta\beta\gamma\delta$ -**Tetramethylamylene**  $\beta\gamma$ -glycol (RICHARD), 1911, A., i, 8.

**2:7:9:10-Tetramethylantracene** dihydride (LAVAUX), 1905, A., i, 698.

**1:3:5:7-Tetramethylantraquinone**, 4:8-dinitro- and 2:4:6:8-*tetranitro*- (SEER and EHRENZWEIG), 1912, A., i, 276.

**Tetramethylarsonium iodide** and its pharmacological action (BÜRGI), 1907, A., i, 302.

**2:4:3':5'-Tetramethylazobenzene-2-hydrazinesulphonic acid** and its salts (TRÖGER and WESTERKAMP), 1910, A., i, 208.

**Tetramethylbenzidine** (4:4'-*tetramethyldiaminodiphenyl*) (ULLMANN and DIETERLE), 1904, A., i, 269 ; (WILLSTÄTTER and KALB), 1904, A., i, 1050.

hydrobromide perbromide (FRIES), 1904, A., i, 571.

**Tetramethylbenzidine**, 2:2'-*diamino*- and -*dinitro*- (ULLMANN and DIETERLE), 1904, A., i, 269.

*s- $\omega$ -dicyano-* (V. BRAUN), 1908, A., i, 625.

**Tetramethylbenzidinesulphonic acid** and its salts (WILLSTÄTTER and KALB), 1904, A., i, 1050.

**2:4:2':4'-Tetramethylbenzophenone** (BOESEKEN), 1907, A., i, 855.

**3:4:3':4'-Tetramethylbenzophenone** and its oxime and phenylhydrazone (BISTRZYCKI and REINTKE), 1905, A., i, 285.

**2:4:5:6-Tetramethyl-1:3:7:9-benzotetrazole** (BÜLOW and HAAS), 1910, A., i, 203.

**Tetramethyl bromo- and chloro-glucose** (IRVINE and MOODIE), 1908, T., 105.

$\beta\beta\gamma\gamma$ -**Tetramethylbutane**. See Hexamethylethane.

**1:1:3:3-Tetramethylcyclobutane-2:4-diol**, and its diacetyl derivative (WEDEKIND and MILLER), 1912, A., i, 17.

**1:1:3:3-Tetramethylcyclobutane-2:4-dione** (WEDEKIND, WEISSWANGE, and ERDMANN), 1906, A., i, 437. action of ammonia on (WEDEKIND and MILLER), 1910, A., i, 324.

**Tetramethylcyclobutanone**, imino-, and its phenylhydrazone (WEDEKIND and MILLER), 1910, A., i, 324.

$\gamma$ -**Tetramethylbutylene glycol**. See  $\beta\epsilon$ -Dimethylhexane- $\beta\epsilon$ -diol.



- 1:3:4:7-Tetramethylcarbazole** and its picrate (BORSCHÉ, WITTE, and BOTHE), 1908, A., i, 367.
- 1:2:4:5-Tetramethyl-1-dichloromethylcyclohexadien-4-ol** (AUWERS and KÖCKRITZ), 1907, A., i, 402.
- Tetramethylchrysianiline**, salts of (FISCHER and SCHMIDT), 1910, A., i, 702.
- Tetramethylcoumarins**, 3:4:6:7-, 3:4:6:8-, 3:4:5:7-, and 4:5:6:8-, formation of (CLAYTON), 1908, T., 2019.
- $\gamma$ -Tetramethyldehydrobrazilin** (HERZIG, POLLAK, and KLUGER), 1906, A., i, 872.
- $\alpha\beta\beta$ -Tetramethyl- $\gamma\gamma$ -diallylbutyric acid**,  $\gamma$ -hydroxy-, and its ethyl ester and lactone (REFORMATSKY), 1909, A., i, 5.
- 2:4:2':4'-Tetramethyl-1:1'-dianthraquinoyl** (SCHOLL and POTTSCHWAUSCHEG), 1910, A., i, 272.  
condensation of (BADISCHE ANILIN- & SODA-FABRIK), 1907, A., i, 226.
- Tetramethyldibenzofuran** (BAMBERGER and BRUN), 1907, A., i, 521.
- 1:1:3:3-Tetramethyl-2:4-diethylcyclobutane** (WEDEKIND and MILLER), 1912, A., i, 17.
- 1:1:3:3-Tetramethyl-2:4-diethylcyclobutane-2:4-diol** and *di*-iodo- (WEDEKIND and MILLER), 1912, A., i, 17.
- Tetramethyldiglycollic acid**, and its lead salt and diethyl ester (DUPONT), 1912, A., i, 483.
- 5:5:5':5'-Tetramethyldicyclohexane-1:1'- and -3:3'-diol**, and their diacetyl and dibenzoyl derivatives (CROSSLEY and RENOUF), 1906, P., 303; 1907, T., 71.
- 5:5:5':5'-Tetramethyl- $\Delta^{2:2'}$ -dicyclohexene-1:1'-diol**, and its bromo-derivative (CROSSLEY and RENOUF), 1906, P., 303; 1907, T., 76.
- 5:5:5':5'-Tetramethyl- $\Delta^{1:1'}$ -dicyclohexene-3:3'-dione** (CROSSLEY and RENOUF), 1906, P., 303; 1907, T., 70.
- 1:2:3:6-Tetramethyl-2:3-dihydrobenzimidazole** and 2-hydroxy-, and their resolution (FISCHER and RÖMER), 1906, A., i, 539.
- Tetramethyldihydrobrazileinol** and its oxidation (ENGELS, PERKIN, and ROBINSON), 1908, T., 1138.
- Tetramethyldihydrohæmateinol** (ENGELS, PERKIN, and ROBINSON), 1908, T., 1142.
- $\alpha\alpha\alpha'\alpha'$ -Tetramethyldihydromuconic acid** and its oxidation product (BONE and HENSTOCK), 1903, T., 1384; P., 247.
- 1:1:2:2-Tetramethyl-3:4-dimethylene-cyclobutane** (LEBEDEFF), 1912, A., i, 173.
- Tetramethyldinaphthanthracene**, formation of (HOMER), 1907, T., 1107; P., 88.
- 3:5:3':5'-Tetramethyl-4:4'-diphenol** and its diacetate and 2-chloro-derivative and -4:4'-diphenquinone (AUWERS and v. MARKOVITS), 1905, A., i, 219.
- 3:4:3':4'-Tetramethyldiphenyl** and amino-, 6-nitro-, and *tetranitro*-, and their derivatives (CROSSLEY and HAMPSHIRE), 1909, P., 162; 1911, T., 721; P., 90.
- Tetramethyldiphenyls**, 2:4:2':4'- and 2:5:2':5'- (ÜLLMANN), 1904, A., i, 726.
- 2:5:2':5'-Tetramethyldiphenyltrichloroethane**, 4:4'-dihydroxy- (AUWERS), 1903, A., i, 622.
- 2:4:2':4'-Tetramethyldiphenyldicarbonylic acid** (LIEBERMANN and KARLOS), 1912, A., i, 466.
- 2:4:2':4'-Tetramethyldiphenyl-3:3'- and 5:5'-dipthaloylic acid** and disulphonic acid of the former (SCHOLL, LIESE, MICHELSON, and GRUNEWALD), 1910, A., i, 264.
- 2:5:2':5'-Tetramethyldiphenylmethane**, 4:4'-diamino-, 3:6:3':6'-*tetrabromo*-4:4'-dihydroxy-, and 4:4'-dihydroxy- (AUWERS), 1907, A., i, 917.
- 2:6:2':6'-Tetramethyldiphenylmethane**, 4:4'-diamino- (AUWERS and RIETZ), 1907, A., i, 919.  
3:5:3':5'-*tetrabromo*-4:4'-dihydroxy- (AUWERS, KIPKE, SCHRENK, and SCHRÖTER), 1906, A., i, 263.
- 3:5:3':5'-Tetramethyldiphenylmethane**, 2:6:2':6'-*tetrabromo*-4:4'-dihydroxy- (AUWERS), 1907, A., i, 918.  
2:2'- and 4:4'-dihydroxy-, and their diacetyl derivatives, synthesis of (AUWERS), 1907, A., i, 611.
- 3:6:3':6'-Tetramethyldiphenylmethane**, 2:5:2':5'-*tetrabromo*-4:4'-dihydroxy-, and its diacetate (AUWERS), 1907, A., i, 918.
- Tetramethyldiphenylmethaness**, 2:3:2':3'- and 2:1:2':1'-, 5:5'-*dinitro*- (AUWERS and RIETZ), 1907, A., i, 919.
- 2''':5''':2''':5'''-Tetramethyl-4:4'-dipyrolediphenic acid** (SCHMIDT and SCHALL), 1907, A., i, 724.
- $\beta\zeta\eta\lambda$ -Tetramethyldodecan- $\zeta$ -ol**,  $\eta$ -iodo- (CLARKE), 1909, A., i, 125.
- Tetramethyllellagic acid**, preparation and reactions of (HERZIG and POLLAK), 1908, A., i, 547.
- cycloTetramethylene**. See *cyclo*Butane.
- Tetramethylene glycol**. See *n*-Butane,  $\alpha\delta$ -dihydroxy-.

- Tetramethylenecarboxylic acid.** See *cyclo*Butane-1-carboxylic acid.
- Tetramethylenediamine** (*putrescine*:  $\alpha\delta$ -*diaminobutane*) (ACKERMANN), 1908, A., i, 10.  
preparation of (FARRENFABRIKEN VORM. F. BAYER & Co.), 1911, A., i, 526.  
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*N*-diacetyl derivative (HAGA and MAJIMA), 1903, A., i, 291.  
picronolate (OTORI), 1905, A., i, 126.
- Tetramethylenediaminephenylcarbimide** (LOEWY and NEUBERG), 1905, A., i, 158.
- 3:3'-Tetramethylenedibenzospiropyran** (BORSCHÉ and GEYER), 1912, A., i, 894.
- Tetramethylenepiperylum salts** (ALBERT), 1909, A., i, 178.
- Tetramethylethyltriaminodiphenyl-naphthylcarbinol.** See Victoria Blue R.
- Tetramethylethylene.** See  $\beta\gamma$ -Dimethyl- $\Delta\beta$ -butylene.  
nitrosobromide. See  $\beta\gamma$ -Dimethylbutane,  $\beta$ -bromo- $\gamma$ -nitroso-.
- Tetramethylethylene glycol.** See Pinacone.
- Tetramethylethylenediamine** and its salts (KNORR), 1904, A., i, 916, 938.  
and its platinichloride (SKRAUP and PHILIPPI), 1911, A., ii, 588.  
See also  $\beta\gamma$ -Dimethylbutane,  $\beta\gamma$ -diamino-.
- 2:2:6:6-Tetramethyl-4-ethylpiperidine**, 4-hydroxy-, and its salts (CLARKE and FRANCIS), 1912, A., i, 722.
- 2:2:6:6-Tetramethyl-4-ethyl-1:2:5:6-tetrahydropiperidine.** See 4-Ethyl-triacetoneamine.
- Tetramethylflavosine**, *tetrabromo*-, and ethyl ester and its acridinium methyl sulphate derivative (GRANDMOUGIN and LANG), 1909, A., i, 972.
- 2:4:5:7-Tetramethylfluoran** (BENTLEY, GARDNER, and WEIZMANN), 1907, T., 1637.
- Tetramethylfluorone**, *tri*hydroxy-, constitution of, and its bromo- and acetyl derivatives (WENZEL and SCHREIER), 1904, A., i, 913.
- Tetramethyl fructose**, crystalline (PURDIE and PAUL), 1907, T., 295; P., 33.
- $\alpha\alpha\delta\delta$ -**Tetramethyl-fulgenic acid** and -fulgide (STOBBE and LENZNER), 1905, A., i, 857.
- Tetramethylgalactose** and its reactions (IRVINE and CAMERON), 1904, T., 1075; P., 174.
- Tetramethyl galactoseanilide** (IRVINE and McNICOLL), 1910, T., 1454.
- Tetramethylgluconic acid**, salts and lactone of (PURDIE and IRVINE), 1903, T., 1033; P., 193.
- Tetramethyl glucose**, addition of alkyl haloids to (IRVINE and MOODIE), 1906, T., 1578; P., 204.  
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- Tetramethyl glucoseanilide** and its attempted alkylation (IRVINE and MOODIE), 1908, T., 103.
- Tetramethyl glucoseoxime** and its alkylation (IRVINE and MOODIE), 1908, T., 100.
- Tetramethylglycollide** (EINHORN and METTLER), 1903, A., i, 30.
- $\alpha\beta\beta\beta$ -**Tetramethylguanidine** aurichloride (SCHENCK), 1911, A., i, 843.
- $\alpha\alpha\beta\beta$ - and  $\alpha\alpha\beta\gamma$ -**Tetramethylguanidines**, salts of (SCHENCK), 1912, A., i, 425.
- $\alpha\beta\beta\beta$ - and  $\beta\beta\beta\beta$ -**Tetramethylguanidines** and their salts (SCHENCK), 1912, A., i, 685.
- Tetramethylhæmatein** (ENGELS, PERKIN, and ROBINSON), 1908, T., 1141.
- Tetramethylhæmatoxylin**, acetyl derivative (HERZIG, POLLAK, and KLUGER), 1906, A., i, 872.
- Tetramethylhæmatoxylone** and its oxime and its acetyl derivative (HERZIG and POLLAK), 1904, A., i, 81.  
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phenylhydrazine compound of, and its acetyl derivative (HERZIG and POLLAK), 1906, A., i, 198, 871.
- Tetramethylhæmatoxylone**, *dinitro*- (HERZIG and POLLAK), 1903, A., i, 270.  
reactions of (HERZIG, POLLAK, and VOUK), 1904, A., i, 908.
- $\omega$ -**Tetramethylhæmatoxylone** and its nitro-derivatives and their dehydro-acetyl compounds, and its methyl ether and its nitro-derivatives (HERZIG, POLLAK, FISCHER, and MAYRHOFER), 1906, A., i, 871.
- Tetramethylcycloheptadiene** (RUPE and KERKOVUS), 1911, A., i, 848.
- Tetramethylcycloheptatriene** and its dihydrobromide (RUPE and KERKOVUS), 1911, A., i, 847.
- $\gamma\gamma\epsilon\epsilon$ -**Tetramethylheptan- $\delta$ -ol** and its phenylurethane (HALLER and BAUER), 1910, A., i, 300.

- $\gamma\gamma\epsilon\epsilon$ -Tetramethylheptan- $\delta$ -one** (HALLER and BAUER), 1910, A., i, 300.
- 2:2:7:7-Tetramethylhexamethyleneimine** and its benzoyl derivative and additive salts (KONOWALOFF and WOJNITSCH-SIANOSCHENSKY), 1905, A., i, 826.
- 1:2:4:5-Tetramethylcyclohexane** (WILLSTÄTTER and HATT), 1912, A., i, 545.
- $\beta\gamma\delta\epsilon$ -Tetramethylhexane- $\gamma\delta$ -diol** and its isomeride (BEAUME), 1903, A., i, 727.
- Tetramethylcyclohexanedione** and its semicarbazone (BAMBERGER and BLANGEY), 1911, A., i, 883, 884.
- $\beta\beta\delta\delta$ -Tetramethylhexan- $\gamma$ -ol** and its phenylurethane (HALLER and BAUER), 1910, A., i, 220.
- $\beta\beta\delta\delta$ -Tetramethylhexan- $\gamma$ -one** (HALLER and BAUER), 1910, A., i, 220.
- 1:1:4:4-Tetramethylcyclohexan-3-one**, 4-dichloro- (AUWERS and HESSENLAND), 1908, A., i, 551.
- Tetramethylindigotin** (GATTERMANN), 1912, A., i, 984.
- 1:1':5:5'-Tetramethylindigotin** (ETTINGER and FRIEDLÄNDER), 1912, A., i, 728.
- 4:5:4':5'-Tetramethylindigotin** (KUNCKEL and SCHNEIDER), 1912, A., i, 915.
- 2:2:3:5-Tetramethyl- $\psi$ -indole methiodide** (KONSCHIEGG), 1906, A., i, 452.
- 2:3:3:5-Tetramethylindolenine**, action of Grignard's reagent on (PLANCHER and RAVENNA), 1907, A., i, 152. reactions of, and benzoyl derivative, and oxime and its acetyl derivative (PLANCHER and CARRASCO), 1909, A., i, 959.
- Tetramethyl laevulose**, preparation of, from methyl methylfructoside (IRVINE and HYND), 1909, T., 1227.
- Tetramethyl mannose and mannoside** (IRVINE and MOODIE), 1905, T., 1462; P., 227. and  $\alpha$ -methylmannose, addition of alkyl haloids to (IRVINE and MOODIE), 1906, T., 1585; P., 205.
- Tetramethyl mannoseanilide** (IRVINE and McNICOLL), 1910, T., 1452.
- Tetramethylmethane**. See  $\beta\beta$ -Dimethylpropane.
- 1:3:3:5-Tetramethyl-2-methyleneindoline** and its additive salts (KONSCHIEGG), 1906, A., i, 453.
- 1:3:3:7-Tetramethyl-2-methyleneindoline** and its additive salts (PLANGGER), 1905, A., i, 718.
- Tetramethyl methylfructoside** and its hydrolysis (PURDIE and PAUL), 1907, T., 293; P., 33.
- Tetramethyl methylgalactosides** (IRVINE and CAMERON), 1905, T., 902; P., 191.
- Tetramethyl  $\alpha$ - and  $\beta$ -methylgalactosides** (IRVINE and CAMERON), 1904, T., 1078; P., 174.
- Tetramethyl methylglucosides**, stereoisomeric, and **Tetramethyl glucose** (PURDIE and IRVINE), 1904, T., 1049; P., 173.
- Tetramethyl  $\alpha$ - and  $\beta$ -methylglucosides** (IRVINE and CAMERON), 1905, T., 901; P., 191. addition of alkyl haloids to (IRVINE and MOODIE), 1906, T., 1584; P., 204.
- Tetramethylnaphthalene**, preparation of (HOMER), 1907, T., 1107; P., 88. absorption spectrum of (HOMER and PURVIS), 1910, T., 280; P., 5.
- 1:4:5:8-Tetramethylnaphthalene**, absorption spectra of (HOMER and PURVIS), 1908, T., 1321; P., 147.
- Tetramethylnorstrophantin** (HERZIG and SCHÖNBACH), 1912, A., i, 707.
- $\beta\beta\eta\eta$ -Tetramethyloctane** (DELACRE), 1912, A., i, 1.
- $\alpha\alpha\beta\zeta$ -Tetramethyl- $\Delta\epsilon$ -octenoic acid** ( *$\alpha\alpha$ -dimethyl- $\alpha\beta$ -dihydrogeranic acid*),  $\beta$ -hydroxy- (TIFFENEAT), 1908, A., i, 500.
- Tetramethylorcinol**, dibromo-, and its derivatives (HERZIG, WENZEL, ZEIDLER, and SCHWADRON), 1911, A., i, 777.
- 2:4:2':4'-Tetramethyloxalyldiacetophenone** and its dioximino-derivative (WIDMAN and VIRGIN), 1909, A., i, 657.
- Tetramethylpentamethylene oxide** and dichlorohydrin from (BRUYLANES), 1909, A., i, 625.
- $\beta\gamma\delta\delta$ -Tetramethylpentane**,  $\beta\delta$ -dihydroxy-, synthesis and decomposition of (SLAVJANOFF), 1907, A., i, 578.
- $\beta\beta\delta\delta$ -Tetramethylpentan- $\gamma$ -ol** and its formyl derivative and phenylurethane (HALLER and BAUER), 1910, A., i, 220.
- 1:2:2:3-Tetramethylcyclopentan-4-ol** and its phenylurethane (LOCQUIN), 1911, A., i, 792.
- $\beta\beta\delta\delta$ -Tetramethylpentan- $\gamma$ -one** (HALLER and BAUER), 1910, A., i, 220.
- 1:2:2:3-Tetramethylcyclopentan-4-one** and its semicarbazones (LOCQUIN), 1911, A., i, 792.
- 1:1:3:5-Tetramethylcyclopentan-4-one-2-carboxylic acid** (1:1:3:5-tetramethyl-4-tetrapentamethylene-2-carboxylic acid) and its oxime and semicarbazone (PERKIN and THORPE), 1906, T., 787.



- 2:3:3:4-Tetramethyl- $\Delta^1$ -cyclopenten-5-one.** See 2-Methyl-laurenone.
- Tetramethylphenosafranine and its salts** (BALLS, HEWITT, and NEWMAN), 1912, T., 1848.
- Tetramethylphenylenediamine.** See Phenylenetetramethyldiamine.
- Tetramethylphloroglucinolaldehyde and its potassium salt, oxime, and methyl ether** (HERZIG, WENZEL, and RONA), 1906, A., i, 93.
- Tetramethylphloroglucinolphthalein** (LIEBERMANN and ZERNER), 1903, A., i, 488.
- Tetramethylphosphonium periodide** (AUGER and BILLY), 1904, A., i, 984.
- 2:4:2':4'-Tetramethyl-5:5'-phthaloyldiphenyl-3-phthaloylic acid** (SCHOLL, LIESE, MICHELSON, and GRUNEWALD), 1910, A., i, 264.
- Tetramethylpicene,** solid, absorption spectra of, and of its solutions (PURVIS and HOMER), 1909, A., ii, 531.
- $\alpha\alpha\epsilon$ -Tetramethylpimelamide** (HALLER and BAUER), 1911, A., i, 652.
- $\alpha\alpha\epsilon$ -Tetramethylpimelic acid** (HALLER and BAUER), 1911, A., i, 652.
- Tetramethylpiperazinium salts** (STRÖMHOLM), 1903, A., i, 463.  
*di*-iodide and mercurichlorides (STRÖMHOLM), 1903, A., i, 139.
- 2:6-Tetramethylpiperidine and its additive salts, methylurethane, and benzoyl derivative** (FRANCHIMONT and FRIEDMANN), 1905, A., i, 80.
- s-Tetramethylpropane.** See  $\beta\delta$ -Dimethylpentane.
- $\alpha\alpha\beta\beta$ -Tetramethylpropyl acetate and chloride** (HENRY), 1907, A., i, 674.
- 3:4:4:6-Tetramethyl-2-isopropyltetrahydro-1:3-oxazine and its salts** (KOHN), 1904, A., i, 933.
- 1:2:4:6-Tetramethylpyridinium perchlorate** (v. BAeyer and PICCARD), 1911, A., i, 901.
- Tetramethylpyrocolldicarboxylic acid, ethyl ester** (PILOTY and WILKE), 1912, A., i, 899.
- Tetramethylpyrrole and its picrate** (PLANCHER and ZAMBONINI), 1912, A., i, 646.
- 2:2:5:5-Tetramethylpyrrolidine and its benzoyl derivative** (KONOWALOFF and WOINITSCH-SIANOSCHENSKY), 1905, A., i, 826.
- 2:2:5:5-Tetramethylpyrrolidine-3-carboxylic acid and its esters and additive salts** (PAULY and HÜLTENSCHMIDT), 1904, A., i, 87.
- 1:2:2:4-Tetramethyl-5-pyrrolidone, 4-amino-, and its phenylthiocarbamide** (KOHN), 1908, A., i, 829.
- Tetramethylpyrroline and its 3-carboxylic acid** (PAULY and HÜLTENSCHMIDT), 1904, A., i, 88.
- Tetramethylquercitrin and its acetyl derivative** (HERZIG and SCHÖNBACH: HERZIG and BÖTTCHER), 1912, A., i, 707.
- 2:5:6:8-Tetramethylquinoline, salts of** (GARROD, JONES, and EVANS), 1912, T., 1393.
- Tetramethylrhodamine and its hydrochloride** (NOELTING and DZIEWONSKI), 1905, A., i, 935.
- Tetramethylrosaminesulphonic acid and dihydroxy-, degradation of** (LIEBERMANN and GLAWE), 1904, A., i, 268.
- Tetramethylrosaminesulphonic acid, dihydroxy-** (LIEBERMANN), 1903, A., i, 861.
- Tetramethylsparteinium dihydroxide** (MOUREU and VALEUR), 1908, A., i, 43.
- Tetramethylstilbene dibromide** (LAW), 1907, T., 752.
- 2:5:2':5'-Tetramethylstilbene, 4:4'-dihydroxy-, and its diacetate** (AUWERS), 1903, A., i, 622.
- $\alpha$ :2:4:5-Tetramethylstyrene,  $\beta$ -chloro-** (AUWERS and KÖCKRITZ), 1907, A., i, 403.
- $\beta\beta\epsilon\epsilon$ -Tetramethylsuberic acid and its esters and salts, preparation of** (WALKER and WOOD), 1906, T., 599; P., 104.  
bromo- and hydroxy-derivatives of (WOOD), 1906, T., 604; P., 104.
- Tetramethylsuccinic acid, acid ester** (BONE, SUDBOROUGH, and SPRANKLING), 1904, T., 554; P., 64.
- 2:2:5:5-Tetramethyltetrahydrofuran, 3-hydroxy-, and its salts** (DUPONT), 1912, A., i, 290.
- 3:4:4:6-Tetramethyltetrahydro-1:3-oxazine and its salts** (KOHN), 1904, A., i, 932.
- 1:4:6:6-Tetramethyl- $\Delta^3$ -tetrahydro-2-pyridone and its additive salts** (PICCININI), 1908, A., i, 51.
- 1:4:6:6-Tetramethyl- $\Delta^3$ -tetrahydro-2-pyridone, 3-amino-, and its platini-chloride, and 3-hydroxy-** (PICCININI), 1908, A., i, 908.
- 1:4:6:6-Tetramethyl- $\Delta^3$ -tetrahydro-2-pyridone-3-carboxylic acid and its amide and salts** (PICCININI), 1908, A., i, 679.
- 1:2:6:8-Tetramethyltetrahydroquinoline and its salts** (JONES and EVANS), 1911, T., 337.

- 2:5:6:8-Tetramethyltetrahydroquinoline** and its salts and benzoyl derivative (GARROD, JONES, and EVANS), 1912, T., 1393; P., 164.
- s-Tetramethyltetramethylene oxide** (HENRY), 1906, A., i, 922.
- 2:2:5:5-Tetramethyltetramethyleneimine.** See 2:2:5:5-Tetramethylpyrrolidine.
- Tetramethylthiocarbamide** (BILLETTER), 1910, A., i, 545.  
methiodide (DELEPINE), 1911, A., i, 23.
- Tetramethylisothiocarbamide** and its picrate (DELEPINE), 1911, A., i, 23.
- "Tetramethylthioindigo"** (KALLE & Co.), 1912, A., i, 487.
- Tetramethylthionine**, amino-, benzoyl derivative of, and its iodide and hydrochloride (GNEHM and KAUFER), 1906, A., i, 389.
- Tetramethylthiouram sulphide** (v. BRAUN and STECHELE), 1903, A., i, 619.
- aary-Tetramethyltricarballic acid**, preparation of, and its salts and anhydro-acid (HENSTOCK and SPRANKLING), 1907, T., 354; P., 32.
- Tetramethyltrimethylenediamine** and its additive salts (KNORR and ROTH), 1906, A., i, 458.
- 1:2:4:4-Tetramethyltrimethyleneimine** and its additive salts and methiodide and its salts (KOHN), 1907, A., i, 338; (KOHN and MORGENSTERN), 1907, A., i, 682.
- 1:3:4:5-Tetramethyluracil** (KIRCHER), 1912, A., i, 54.
- Tetramethylureideindoaniline** (PILOTY and FINCKH), 1904, A., i, 821.
- Tetramethyluric acid**, degradation of (BILTZ), 1910, A., i, 522.
- Tetramethylxanthen**, tetrahydroxy-, and its tetra-acetyl derivative (WENZEL and SCHREIER), 1904, A., i, 913.
- 1:3:7:8-Tetramethylxanthine**, 7-mono- and 8-tri-chloro- (BOEHRINGER & SOHNE), 1904, A., i, 340.
- Tetramic acid** and its oximino-derivative (BENARY), 1911, A., i, 673.
- Tetranaphthyl**, formation of (HOMER), 1907, T., 1112; P., 88.  
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- Tetra- $\alpha$ -naphthylethane** (SCHMIDLIN and MASSINI), 1909, A., i, 562.
- Tetra- $\beta$ -naphthylethane** and its oxide (SCHMIDLIN and HUBER), 1910, A., i, 833.
- Tetra- $\beta$ -naphthyltetrazen** (WIELAND and SÜSSER), 1912, A., i, 905.
- Tetranthera pulgantha* var. *citrata***, oil from the bark, leaves, and fruit of (CHARABOT and LALOUE), 1908, A., i, 279; (ROURE-BERTRAND FILS), 1908, A., i, 558.
- Tetranuclease** (JONES), 1912, A., i, 671.
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- Tetraoxy-2-methylthiophen** and tribromo-, tetrabromide, and polynitro- (LANFRY), 1911, A., i, 1009.
- Tetraoxythiophen** and its octabromide (LANFRY), 1911, A., i, 740.
- Tetrapeptide**,  $C_{16}H_{22}O_6N_4$ , from the hydrolysis of proteins (FISCHER and ABDERHALDEN), 1907, A., i, 737.
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- Tetraphenylacetone** (SMEDLEY), 1910, T., 1491; P., 149; (STAUDINGER and GÖLLER), 1911, A., i, 307.
- Tetraphenylallene** and its isomeride (VÖRLÄNDER and SIEBERT), 1906, A., i, 345.
- Tetraphenyl $\delta$ aminoazobenzene** (HAEUSSERMANN), 1906, A., i, 910.
- Tetraphenyl $\delta$ aminobiuret** (MICHAELIS), 1903, A., i, 471.
- Tetraphenylanthrazylilene** (PADOVA), 1909, A., i, 167.
- $\alpha\alpha\delta\delta$ -Tetraphenylbutadiene** and its dibromide (STAUDINGER and BUCHWITZ), 1910, A., i, 47.
- $\alpha\alpha\delta\delta$ -Tetraphenylbutadiene** (VALEUR), 1903, A., i, 416.
- s-Tetraphenylbutane** (FROMM and ACHEERT), 1903, A., i, 341.
- $\alpha\alpha\delta\delta$ -Tetraphenylbutane- $\alpha\delta$ -diol** and the products of its dehydration (VALEUR), 1903, A., i, 416.
- $\alpha\alpha\delta\delta$ -Tetraphenylbutane- $\alpha\delta$ -diol**, *r*- $\beta$ -amino-, and its salts PAAL and WEIDENKAFF), 1907, A., i, 131.
- 2:2:4:4-Tetraphenylcyclobutane-1:3-dione** (STAUDINGER and GÖLLER), 1911, A., i, 306.
- $\beta\beta\epsilon\epsilon$ -Tetraphenyl- $\Delta\gamma$ -butinene- $\beta\epsilon$ -diol** (DUPONT), 1910, A., i, 456.
- $\alpha\beta\gamma\gamma$ -Tetraphenylbutyrolactone** (REIMER and REYNOLDS), 1908, A., i, 989.
- Tetraphenylcarbamic phenylcarbamide** (ROUX), 1903, A., i, 463.
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- Tetraphenylcarbazine** (ACREE), 1903, A., i, 862.

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- Tetraphenylmethaneazodimethylaniline** (ULLMANN and MÜNZHUBER), 1903, A., i, 245.
- Tetraphenylmethylenediamine** (HOUBEN and ARNOLD), 1908, A., i, 534.
- Tetraphenyl- $\alpha$ -naphthaquinodimethane** (STAUDINGER), 1908, A., i, 411.
- Tetraphenyloxal-amidine** and its picrate and -hydrazidine (BAUER), 1907, A., i, 603.
- $\alpha\alpha\epsilon\epsilon$ -Tetraphenylpentan- $\gamma$ -one** and its oxime and  $\beta$ -benzoyl derivative (KÖHLER and HERITAGE), 1906, A., i, 96.
- $\alpha\alpha\epsilon\epsilon$ -Tetraphenylpentan- $\gamma$ -one**,  $\beta$ -bromo- (KÖHLER), 1907, A., i, 1053.
- $\alpha\beta\delta\epsilon$ -Tetraphenylpentan- $\gamma$ -one- $\alpha\epsilon$ -diol** and its diacyl derivatives (GOLDSCHMIEDT and SPITZAUER), 1904, A., i, 64.
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- $\alpha\gamma\epsilon\epsilon$ -Tetraphenyl- $\Delta\alpha$ -penten- $\epsilon$ -ol** (REYNOLDS), 1911, A., i, 861.
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- $\alpha\beta\gamma\gamma$ -Tetraphenyl- $\Delta\alpha$ -propenol** and its peroxide (KÖHLER), 1906, A., i, 754.
- $\alpha\alpha\gamma\gamma$ -Tetraphenylpropylene alcohol** (VORLÄNDER, SIEBERT, and OSTERBURG), 1906, A., i, 346.
- Tetraphenylpyrrole** (CLARKE and LAPWORTH), 1907, T., 704; P., 90.
- Tetraphenylquinodimethane** and bromo-, preparation of (TSCHITSCHIRABIN), 1908, A., i, 872.
- Tetraphenylsuccinonitrile**, *tetrachloro*- (STOLLÉ and SCHMIDT), 1912, A., i, 981.
- Tetraphenyltetrahydrofuran** (VALEUR), 1903, A., i, 416.
- iso*Tetraphenylthiocarbamide** and its platinichloride (STEINDORFF), 1904, A., i, 452.
- Tetraphenyltoluquinodimethane** (STAUDINGER and BEREZA), 1911, A., i, 462.
- Tetraphenyl-*m*-tolylidiguanide** and its platinichloride (ALWAY and VIELE), 1903, A., i, 201.
- Tetraphenyltrimethylcyclohexanones**, stereoisomeric (KÖHLER), 1907, A., i, 536.
- Tetraphenyl-*p*-xylene** and -*p*-xylylene chloride and glycol (ULLMANN and SCHLAEPFER), 1904, A., i, 570.
- Tetraphenylxyloquinodimethane** (STAUDINGER), 1908, A., i, 411.
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- Tetrapiperonylerythritol** (LAW), 1906, T., 1519.
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- Tetrapropylsuccinic acid** and its anhydride and methyl hydrogen ester (CRICHTON), 1906, T., 933; P., 162.
- Tetrapropylthiocarbamide** (DELÉPINE), 1911, A., i, 23.
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- Tetrapyridinechromium**, *difluoro*-, salts (COSTĂCHESCU), 1912, A., i, 493.
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- Tetrarin** (GILSON), 1903, A., i, 355.
- Tetrasulphaminoplatinous acid**, ammonium, potassium, and sodium salts (RAMBERG and KALLENBERG), 1912, A., ii, 651.
- Tetrasulphido-*p*-phenylenediamine** (GREEN and PERKIN), 1903, T., 1211; P., 206.
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- Tetra-*o*-tolylhydrazine** (WIELAND and SÜSSER), 1912, A., i, 905.
- Tetra-*p*-tolylhydrazine** (WIELAND and GAMBARJAN), 1906, A., i, 453.
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- p*-Tetratolyltetrazen** (WIELAND), 1908, A., i, 1026.
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- 1:2:4:5-Tetrazine-3:6-dicarboxylethylamide** (MÜLLER), 1909, A., i, 847.
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- 1:2:4:5-Tetrazine-3:6-dicarboxylmethylamide** (MÜLLER), 1909, A., i, 847.
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- Thiobenzamide**, condensation of, with benzonitrile (MATSUI), 1911, A., i, 201.
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- Thiobenzoyl disulphide**, o-hydroxy-, and its acetyl derivative (HÖHN and BLOCH), 1911, A., i, 49.
- Thiobenzoylpiperidine** (RUSSELL), 1910, T., 955.
- Thiobiazolones** and xanthates, chemistry of the (ORMEROD), 1906, P., 206.
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- $\gamma$ -Thiocarbamatoacetoacetic acid**, acyano-, ethyl ester (BENARY), 1910, A., i, 581.
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- d/Thiocarbamic acid**, ammonium salt, action of alkyl haloids on (DELÉPINE), 1903, A., i, 156.  
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*di***Thiocarbamide** di-iodide, dissociation and ionisation of (MARSHALL), 1903, A., i, 16.

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***di*Thiocarbonic esters**, imino- (DELÉPINE), 1903, A., i, 237.

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***ar*-Thio-compounds**, isomerism of (HINSBERG), 1906, A., i, 654.

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- $\alpha$ -Thiolbutyric acid** (BILMANN), 1905, A., i, 626.
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- $\alpha$ -Thioleinnamylidenacetic acid** (ZIPSER), 1903, A., i, 273.
- 5-Thiol-*o*-cresol**, 3-bromo-, and its diacetyl derivative (ZINCKE and BRUNE), 1911, A., i, 197.
- 6-Thiol-2:4-dimethylbenzoic acid** (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1910, A., i, 263.
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- 2'-Thioldiphenylamine-4-carboxylic acid**, 2,6-dinitro- (ULLMANN and WOSNESSENSKY), 1909, A., i, 475.
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- 2-Thiol-4:5-diphenyl-1:3-dimethyltetrahydroglyoxaline**, 4:5-dihydroxy- (BILTZ, KREBS, and SEYDEL), 1909, A., i, 526.
- 2-Thiol-4:5-diphenylglyoxaline**, reduction of (BILTZ and KREBS), 1912, A., i, 908.
- 5-Thiol-1:4-diphenylendo-oxydihydro-1:2:4-triazole**, disulphide, sodium and benzoyl derivatives (BUSCH, REINHARDT, and LIMPACH), 1910, A., i, 142.
- $\alpha$ -Thiol- $\alpha$ -ethylbutyric acid** (*diethylthioglycollic acid*) and its amide (CLEMMENSEN and HEITMAN), 1908, A., i, 772.
- $\beta$ -2-Thiolglyoxaline-4-acrylic acid** (BARGER and EWINS), 1911, T., 2338; P., 305.
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- 6-Thiol-2-imino-4-methyl-1:3:5-triazine** (OSTROGOVICH), 1912, A., i, 320.
- 6-Thiol-4-ketopenthiophenthiofen-5-carboxylic acid**, 3-hydroxy-, ethyl ester (APITZSCH and KELBER), 1910, A., i, 410.
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- $\alpha$ -Thiol-*p*-methoxycinnamic acid**, disulphide and its benzyl derivative (BUTSCHER), 1911, A., i, 333.
- 1-Thiol-2-methylantraquinone**, derivatives of (GATTERMANN), 1912, A., i, 999.
- Thiolnaphthalene**, 4-amino-1-bromo-, 4-amino-1-chloro-, acetyl derivatives (ZINCKE and SCHÜTZ), 1912, A., i, 257.
- 2- and 8-Thiolnaphthalene-1-carboxylic acids** (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1910, A., i, 263.
- 8-Thiol-1-naphthoic acid**, anhydride of (FRIEDLÄNDER, VOROSCHTOFF, and ECKSTEIN), 1912, A., i, 294.
- Thiolphenylacetic acid, *o*-cyano-** (KALLE & Co.), 1907, A., i, 953.
- o*-Thiolphenylacetic acid** and its sodium salt (MARSHALK), 1912, A., i, 576.
- Thiolphenylacetic-*o*-glyoxylic acid** and its sodium salt and phenylhydrazone (BEZDZIK, FRIEDLÄNDER, and KOENIGER), 1908, A., i, 201.
- 2-Thiol-5(or 4)-phenyl-4(or 5)-ethylglyoxaline** (HILDESHEIMER), 1910, A., i, 891.
- Thiolphenylglyoxylic acid**, phenylhydrazone of, and its derivatives (AUWERS and MÜLLER), 1911, A., i, 586.
- Thiolphthalic acid**, esters of (REISSERT and HOLLE), 1911, A., i, 981.
- 2-Thiol-2-piperidyl-3-ethyl- and -3-phenyl-4-oxazolidone** (HOLMBERG), 1912, A., i, 133.
- p*-Thiolpropionic acid,  $\alpha$ -oximino-** (JOHNSON and SHEPARD), 1912, A., i, 911.
- 2-Thiol-4(or 5)-thiocarbamidomethylglyoxaline** (PYMAN), 1911, T., 672.
- 3-Thiol-*p*-toluic acid** (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1910, A., i, 263.
- 4-Thiol-1-*p*-tolylaminoanthraquinone** (FARBENFABRIKEN VORM. F. BAYER & Co.), 1909, A., i, 496.
- $\gamma$ -Thiol-*n*-valerylcarbamide** (JOHNSON and HILL), 1911, A., i, 503.
- Thiomorpholine**, dihydroxy-, hydrochloride (WOLFF and MARBURG), 1909, A., i, 16.
- $\beta$ -Thionacetic acid** and its methyl ester (MATSUI), 1912, A., i, 262.
- ethyl ester (MATSUI), 1909, A., i, 463.
- 4-Thion-2-alkyldihydroquinazolines**, synthesis of (BOGERT, BRENNEMAN, and HAND), 1903, A., i, 527.
- 2-Thion-1- and -3-alkyl-1:2:3:4-tetrahydro-4-quinazolones**, synthesis of (v. PAWLEWSKI), 1906, A., i, 542.
- Thionaphthen** and its derivatives (BEZDZIK, FRIEDLÄNDER, and KOENIGER), 1908, A., i, 200.
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- Thionaphthen colouring matters** (FRIEDLÄNDER), 1909, A., i, 503.
- Thionaphthen-2-aldehyde**, 3-hydroxy-, and its derivatives (FRIEDLÄNDER and KIELBASINSKI), 1911, A., i, 1022.
- Thionaphthen-3-aldehyde**, 2-hydroxy- (FRIEDLÄNDER), 1908, A., i, 373.  
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- Thionaphthencarboxylic acid**, 4-chloro-2-amino- (KALLE & Co.), 1909, A., i, 252.
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- (1)-**Thionaphthen-2-carboxylic acid** and 3-amino- (KALLE & Co.), 1907, A., i, 953.
- (1)-**Thionaphthen-2-carboxylic acid**, 3-hydroxy-, preparation of (KALLE & Co.), 1908, A., i, 797.  
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- "**Thionaphthenindoleindigos.**" See Indoxylthionaphthenones.
- Thionaphthenphenylosotriazole** (AUWERS and MÜLLER), 1911, A., i, 587.
- Thionaphthenquinone**, phenylhydrazones and osazone of (AUWERS and MÜLLER), 1911, A., i, 586.
- Thionaphthenquinone-*p*-dimethylamino-2-anil**, and its hydrochloride, and 5- and 7-chloro- (PUMMERER), 1910, A., i, 510.
- Thionaphthenquinone-*p*-phenylamino-2-anil** and its hydrate and hydrochloride (PUMMERER), 1910, A., i, 511.
- 3(1')-**Thionaphthenyl- $\psi$ -indole-2 anilide** (PUMMERER and GÖTTLER), 1911, A., i, 232.
- 3(1')-**Thionaphthenyl- $\psi$ -indole-*p*-dimethylamino-2-anil** (PUMMERER and GÖTTLER), 1911, A., i, 232.
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- $\beta$ -Thionbenzoic acid**, ethyl ester (MATSUI), 1909, A., i, 463.
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- Thioncarbamie acid**, phenyl ester (RIVIER), 1906, A., i, 948.  
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- Thioncarbonic acid**, diphenyl ester (CHEMISCHE FABRIK LADENBURG), 1911, A., i, 438.
- 3-Thion-1:4-diphenyl-2-methylurazole** (BUSCH and LIMPACH), 1911, A., i, 335.
- 2-Thion-3-ethyl-4-oxazolidone** (HOLMBERG), 1912, A., i, 131.
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- Thionine**, *di*amino-, chloride and platinum-chloride of (BARNETT and SMILES), 1909, T., 1259.
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- Thionoxalotoluidides**, *o*-, *m*-, and *p*- (FRERICHS and WILDT), 1908, A., i, 413.
- Thionoxanilic acid** and its salts and derivatives (REISSERT), 1904, A., i, 990.
- di***Thionoxanilide** (REISSERT), 1904, A., i, 991.
- 2-Thion-3-phenyl-5-benzylidene-4-oxazolidone** (HOLMBERG), 1912, A., i, 133.
- Thionphenyl-mono- and di-methyluracils** (BEHREND and HENNICKE), 1906, A., i, 313.
- 2-Thion-3-phenyl-4-oxazolidone** and its derivatives (HOLMBERG), 1912, A., i, 132.
- 2-Thion-3-phenyl-1:2:3:4-tetrahydroquinazolinone** (v. PAWLEWSKI), 1905, A., i, 246.
- $\beta$ -Thionpropionic acid**, and its lead salt and methyl ester (MATSUI), 1912, A., i, 262.
- ethyl ester (MATSUI), 1909, A., i, 463.
- 2-Thionpyrimidine-5-carboxylic acid**, 6-amino-, and its ethyl ester and hydrochloride (JOHNSON and AMELER), 1911, A., i, 576.
- 2-Thiontetrahydro-4-pyrimidone**, 5-bromo-6-amino- (JOHNSON and JOHNS), 1905, A., i, 837.
- 2-Thiontetrahydro-6-pyrimidone**, 5-amino-, *N*-benzoyl derivative of (JOHNSON), 1905, A., i, 836.
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- Thiophen-2-carboxylic acid**, 3:4-dihydroxy-, ethyl and methyl esters (HINSBERG), 1912, A., i, 895.
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- 3-Thiopyrine**. See 1-Phenyl-2:5-dimethylpyrazole, 2:3-thio-.
- $\psi$ -Thiopyrine**. See 5-Methylthiol-1-phenyl-3-methylpyrazole.
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- $\psi$ -isoThiopyrine**. See 5-Methylthiol-3-phenyl-1-methylpyrazole.
- 3-Thiopyrinitrioxide**. See Trioxythio-1-phenyl-2:5-dimethylpyrazole.
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- Titanium alloys** with iron, rich in silicon, analysis of (TRAUTMANN), 1911, A., ii, 661.
- Titanium compound** with aluminium (MANCHOT and RICHTER), 1908, A., ii, 40.
- Titanium compounds**, behaviour of phenols, naphthols, and phenolcarboxylic acids with (HAUSER and LEWITE), 1912, A., i, 847.
- Titanium ammonio-compounds** (STÄHLER), 1905, A., ii, 596.
- Titanium trichloride**, action of, on organic hydroxyl compounds (ROSENHEIM and SCHNABEL), 1905, A., i, 731.
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- tetrachloride*, preparation of (RENZ), 1906, A., ii, 173; (VIGOUROUX and ARRIVAUT), 1907, A., ii, 97, 270.
- preparation of, from rutile (ELLIS), 1907, A., ii, 270.
- reduction of, by hydrogen (GOERGES and STÄHLER), 1909, A., ii, 894.
- action of, on 1:3-diketones (DILTHEY), 1904, A., i, 290.
- Titanium tetrachloride**, reaction of, with ethyl ether (ELLIS), 1907, A., i, 580.
- action of nitrogen sulphide on (DAVIS), 1906, T., 1576; P., 261.
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- double, with alkaloids (SCHAEFFER), 1909, A., i, 49.
- tetrafluoride* and its derivatives (RUFF and IPSEN), 1903, A., ii, 550.
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- trihaloids*, hydrates of (STÄHLER), 1905, A., ii, 40; (STÄHLER and WIRTHWEIN), 1905, A., ii, 595.
- nitrogen haloids, new (RUFF and EISNER), 1908, A., ii, 700.
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- oxide, fluted spectrum of (FOWLER), 1907, A., ii, 726.
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- thermal analysis of mixtures of silicates and (SMOLENSKY), 1912, A., ii, 160.
- Metatitanic acid**, hydrated, action of silicon and tungsten on (TAMMANN), 1905, A., ii, 256.



- Titanium peroxide**, complex salts of (MAZZUCHELLI), 1907, A., i, 891.
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- Perititanic acid**, salts of, with amines (KUROWSKI and NISSENMAN), 1911, A., i, 183.
- Titanium phosphide** (GEWECKE), 1908, A., ii, 597.
- silicide** (HÖNIGSCHMID), 1906, A., ii, 678.
- sesquisulphate and its compound with sulphuric acid**, and double salts with ammonium and rubidium sulphates (STÄHLER), 1905, A., ii, 595.
- reduction of perchlorates by** (STÄHLER), 1909, A., ii, 699.
- Titanic sulphate**, electrolytic reduction of solutions of (DIETHELM and FOERSTER), 1908, A., ii, 350.
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- Titanous salts**, reaction of, with copper salts (KNECHT), 1904, A., ii, 448.
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- ammonium and potassium formates** (STÄHLER and BACHRAN), 1911, A., ii, 1097.
- Titanonium salts** (DILTHEY, EDUARD-OFF, and SCHUMACHER), 1906, A., i, 342.
- Titani-dihydroxymaleic acid** (FENTON), 1908, T., 1064; P., 133.
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- and zirconium, simultaneous precipitation of, in presence of iron (DITTRICH and FREUND), 1908, A., ii, 134.
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- Titanium minerals**, the opening-up of (GILES), 1909, A., ii, 352.
- zirconia and erbia from (HOFMANN), 1910, A., ii, 1073.
- Titanium steels**, constitution and properties of (GUILLET), 1905, A., ii, 527.
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- Titration**, iron-alum as a standard in (DE KONINCK), 1909, A., ii, 611.

- Toad**, tropical (*Bufo aqua*), active principles from the (ABEL and MACHT), 1912, A., ii, 1193.  
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- Toads**, active components of the secretions of the skin glands of (FAUST), 1903, A., ii, 313.  
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- Toadstool**, muscarine from the (HONDA), 1911, A., i, 807.
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- Tobaccos**, apparatus for determining the differences shown by, when smoked (TÓTH), 1905, A., ii, 216.
- Tobacco culture**, production of nicotine in (SCHLESING), 1910, A., ii, 743.
- Tobacco factory**, composition of the incrustations in Roberts-concentrators used in a (ONGARO), 1904, A., ii, 770.
- Tobacco-juice**, estimation of nicotine in (SCHRÖDER), 1911, A., ii, 163, 552; (KISSLING), 1911, A., ii, 344, 345; (ULEX), 1911, A., ii, 344; (TÓTH: LEISTER), 1911, A., ii, 345.
- Tobacco leaves**, 1-methylpyrrolidine from (PICTET and COURT), 1907, A., i, 954.
- Tobacco leaves**, green, betaines in (DELEANO and TRIER), 1912, A., ii, 800.
- Tobacco oil**, composition and chemical and physical properties of (AMPOLA and SCURTI), 1905, A., ii, 214.
- Tobacco plant**, sugars of the (AMPOLA and SCURTI), 1909, A., ii, 339.  
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- Tobacco plants**, nicotine in (CHUARD and MELLET), 1912, A., ii, 979.  
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- "Töre," formation of, in pine-wood (NORDENSKIÖLD), 1912, A., ii, 979.
- Tofu** (KATO), 1909, A., ii, 607.
- m*-**Tolacylnaphthalimidine** and its isomeride (WIECHOWSKI), 1905, A., i, 708.
- Tolane** (*diphenylacetylene*) chlorides (LÖB), 1903, A., i, 807, 811.  
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- Tolane**, *oo'*-diamino-, and *oo'*-dinitro- (KIEGL and HAAS), 1911, A., i, 433.  
*di*-*p*-amino-, and its salts and dincetyl derivative (ZINCKE and FRIES), 1903, A., i, 182.  
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- Tolane**, tetrachloro-, dibromide, quinone of, and its  $\psi$ -chloride (ZINCKE and WAGNER), 1905, A., i, 343.
- tetrachloro-*p*-dihydroxy-, and its dibromide and chlorobromide and their acetates, and quinhedrone (ZINCKE and WAGNER), 1905, A., i, 342.
- di*-*p*-hydroxy-, and its diacetyl derivative (ZINCKE and MÜNCH), 1905, A., i, 56.
- chloro-compounds of, and their diacetates (ZINCKE and FRIES), 1903, A., i, 182.
- Tolanequinone** dichloride, tetrachloro- (ZINCKE and FRIES), 1903, A., i, 183.
- o*-Tolhydriyltriphenylcarbinol (GUYOT and VALLETTE), 1911, A., i, 653.
- o*-Tolidine, formation of, from hydrazo-toluene (VAN LOON), 1908, A., i, 831.
- constitution of (SCHULTZ, ROHDE, and VICARI), 1904, A., i, 532; 1907, A., i, 244.
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- oxalate and oxalyl derivative (TAUSIG), 1904, A., i, 663.
- sulphates (BIEHRINGER and BORSUM), 1906, A., ii, 637.
- estimation of, iodometrically (ROESLER and GLASMANN), 1904, A., ii, 99.
- o*-Tolidine, 3:3'-dibromo- (MOIR), 1907, T., 1310.
- 3:3'-dichloro-, and its salts (SCHLENK and KNORR), 1909, A., i, 37.
- m*-Tolidine, tetrabromo- and its tetraacetyl derivative (SCHLENK and KNORR), 1909, A., i, 37.
- o*-Tolidinedihydrazine and its hydrochloride (SCHULTZ, ROHDE, and VICARI), 1907, A., i, 245.
- o*-Tolidine-2:2'-sulphonic acid and its bisdiaz- and acetyl derivatives (ELBS and WOHLFAHRT), 1903, A., i, 212.
- 2-*o*-Tolidino- $\alpha$ -naphthaquinone and its acetyl derivative (PUMMERER and BRASS), 1911, A., i, 655.
- m*-Tolil (EKECRANTZ and AHLQVIST), 1908, A., i, 993.
- p*-Tolidioxime peroxide (PONZIO), 1906, A., i, 735.
- p*-Tolidioximes, isomeric, and their behaviour as to formation of complexes (TSCHUGAEFF and SPIRO), 1908, A., ii, 686.
- pp'*-Tollic acid. See Di-*p*-methylbenz-*ilic* acid.
- (*Toluene compounds*, Me = 1.)
- Tolualdehyde**, trimeric (MASCARELLI and RUSSI), 1910, A., i, 746.
- reactions of, with hydroxy-acids (ALBERDA VAN EKENSTEIN and BLANKSMA), 1906, A., i, 512.
- o*-Tolualdehyde (STOERMER, SCHENCK ZU SCHWEINSBERG, SIBBERN-SIBBERS, and RIEBEL), 1906, A., i, 583.
- o*-Tolualdehyde, *p*-chloro-, and its semicarbazone (AUWERS and KEIL), 1905, A., i, 445.
- 5-hydroxy-, ethylene ether (GATTERMANN), 1908, A., i, 34.
- m*-Tolualdehyde,  $\alpha$ :5-dibromo-6-hydroxy-, compounds of, with amines and their acetates (AUWERS and SCHRÖTER), 1906, A., i, 347.
- 4-hydroxy-, and its azine, synthesis of (GATTERMANN), 1908, A., i, 28.
- 6-hydroxy-, ethylene ether, and its derivatives, synthesis of (GATTERMANN), 1908, A., i, 34.
- 2:4:6-trihydroxy-, and its oxime and penta-acetyl derivative (HERZIG, WENZEL, and KERÉNYI), 1904, A., i, 252.
- 2-iodo- (MAYER), 1912, A., i, 478.
- nitro- $\omega$ -chloroamino-, acetyl derivative (EINHORN and GÖTTLER), 1910, A., i, 113.
- p*-Tolualdehyde, synthesis of, and its azine, phenylhydrazine, and condensation product of, with benzidine, and 2:6-dinitro- and nitroso-derivatives (GATTERMANN), 1906, A., i, 589.
- dimeride of (ODDO and DEL ROSSO), 1911, A., i, 443.
- action of light on, in the presence of iodine (MASCARELLI and RUSSI), 1910, A., i, 746.
- and ethyl  $\alpha$ -bromopropionate, action of admixed, on zinc (STRSCHALKOVSKY), 1909, A., i, 304.
- diacetate (CLAUSSNER), 1905, A., i, 791.
- p*-Tolualdehyde, nitro- $\omega$ -chloroamino-, acetyl derivative (EINHORN and GÖTTLER), 1910, A., i, 113.
- Tolualdehydes**, electrolytic reduction of (LAW), 1907, T., 750; P., 73.
- diphenylhydrazones of (RORIVE and TOLLENS), 1907, A., i, 709.
- Tolualdehydes**, *o*- and *p*-, and their phenylbenzylhydrazones and semicarbazides (FOURNIER), 1904, A., i, 63.
- and their semicarbazones (BLAISE and COURTOT), 1906, A., i, 554.



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**Tolualdehydes**, 3-hydroxy-. See  $\alpha$ - and  $\beta$ -Homosalicylaldehydes.

*p*-hydroxy-, phenylhydrazones of (ANSELMINO), 1903, A., i, 122.

3- and 5-, nitrohydroxy-derivatives, and their acetyl compounds (AUWERS and BONDY), 1904, A., i, 1053.

*p*-Tolualdehyde-ammonia (FRANCIS), 1909, A., i, 589.

*p*-Tolualdehyde-*p*-bromophenylhydrazone (GRAZIANI), 1910, A., i, 778.

*p*-Tolualdehyde-*p*-methoxyphenylhydrazone (PADOA and SANTI), 1911, A., i, 1029.

*p*-Tolualdehyde-*p*-methylbenzylhydrazone and its salts (CURTIUS and SPRENGER), 1912, A., i, 139.

*p*-Tolualdehyde- $\alpha$ -naphthylhydrazone (PADOA and BOVINI), 1912, A., i, 224.

*p*-Tolualdehyde- $\beta$ -naphthylhydrazone (PADOA and GRAZIANI), 1910, A., i, 510.

*p*-Tolualdehydephenylhydrazone (LAW and PERKIN), 1905, A., i, 40.

*p*-Tolualdehyde-phenyl- and *o*- and -*m*-tolylhydrazones (PADOA and GRAZIANI), 1910, A., i, 135.

**Tolualdehydesemicarbazones**, *o*- and *p*- (LAW and PERKIN), 1905, A., i, 40.

**3-Tolualdehyde-5-sulphonic acid**, 4-hydroxy- (FARBENFABRIKEN VORM. F. BAYER & Co.), 1911, A., i, 459.

*p*-Tolualdehyde-*p*-tolylhydrazone (PADOA and GRAZIANI), 1909, A., i, 965.

*p*-Tolualdehyde-1:2:4-, -1:3:5-, -1:3:4-, and 1:4:5-xylylhydrazones (PADOA and GRAZIANI), 1910, A., i, 510, 778.

*p*-Tolualdoxime peroxide (PONZIO), 1906, A., i, 735; (TSCHUGAEFF and SPIRO), 1908, A., i, 687.

**Tolualdoximes** (SCHOLL and KAČER), 1903, A., i, 254.

*m*-Toluamide, 6-nitro- (WHEELER and HOFFMAN), 1910, A., i, 666.

**Toluanides**, *o*- and *m*- (KATTWINKEL and WOLFFENSTEIN), 1904, A., i, 896.

*p*-Toluanilide, benzoyl derivative (FREUNDLER), 1904, A., i, 34.

**Toluenibromoresazine** (HEIDUSCHKA and SCHELLER), 1910, A., i, 397.

**Toluene**, benzene, and acetone, dispersion in the electric spectra of (COLLEY), 1908, A., ii, 909.

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**Toluene**, molecular weight of (LEDUC), 1909, A., ii, 382.

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sulphonation of (HOLLEMAN, CALAND, VAN DER LINDEN, and WIBAUT), 1911, A., i, 849.

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**Toluene**, action of sulphur monochloride on (BÖESEKEN and KONING), 1911, A., i, 532.

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chloro- and bromo-derivatives, absorption spectra of (PURVIS), 1911, T., 1699; P., 218.

chloronitro- and nitro-derivatives, rate of oxidation of (COHEN and HODSMAN), 1907, T., 970; P., 152.

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iodo-derivatives, absorption spectra of (PURVIS), 1911, T., 2318; P., 280.

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**Toluene**, amino-. See Toluidines.

diamino-. See Tolylenediamines.

2:4:5-triamino-, brown sulphur dye from (KALLE & Co.), 1905, A., i, 540.

2-amino-4:5-dithiol-, and its diethyl ether and their salts, and sulphineazo-dyes (FICHTER, FRÖHLICH, and JALON), 1907, A., i, 1030.

acetate, *N*-diacetyl derivative (FRÖHLICH), 1907, A., i, 632.

*p*-bromo-, equilibrium curves in the system: *p*-dibromobenzene and (BORODOWSKY and BOGOJAWLENSKI), 1904, A., ii, 550.

*o*-, *m*-, and *p*-bromo- and -chloro-, behaviour of, in the organism (HILDEBRANDT), 1903, A., ii, 228.

isomeric tribromo-, crystallographic and molecular symmetry of the (JAEGER), 1904, A., i, 304.

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*o*-bromo- $\omega$ -nitro- (WISLICENUS and FISCHER), 1910, A., i, 621.

6-bromo-2-nitro- (FRIEDLÄNDER, BRUCKNER, and DEUTSCH), 1912, A., i, 318.

2-bromo-3:5-dinitro- and 3:5-dinitro-2-nitroamino-, and its salts (ZINCKE and MALKOMESIUS), 1905, A., i, 487.

4-bromo- $\omega$ -2-dinitro-, 4- and 6-chloro- $\omega$ -2-dinitro-,  $\omega$ -2- and -4-dinitro- (SOCIÉTÉ CHIMIQUE DES USINES DU RHÔNE), 1912, A., i, 176.

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**Toluene**,  $\omega$ -bromodinitro-,  $\omega$ -chlorodinitro-, and  $\omega$ -dinitro- and its phenylhydrazine salt (PONZIO and CHARRIER), 1908, A., i, 522.

3:5-dibromo-2- and -4-nitro-, and 3:5-dibromo-2:6-dinitro- (BLANKSMA), 1909, A., i, 778.

*di*- $\omega$ -bromo- $\omega$ -nitro- (PONZIO), 1908, A., i, 869.

3:5-dibromo-2:4-dinitro-, and 2:4-dinitro-3:5-diamino- (BLANKSMA), 1904, A., i, 566.

$\omega$ -bromonitrocyano- (FLÜRSCHHEIM), 1903, A., i, 79.

*o*-chloro-, preparation of (GESELLSCHAFT FÜR CHEMISCHE INDUSTRIE IN BASEL), 1903, A., i, 331.

*p*-chloro-, nitration of (HOLLEMAN), 1909, A., i, 18.

*o*-, *m*-, and *p*-chloro-, absorption spectra of (BALY), 1911, T., 856; P., 72.

*o*-, *m*-, and *p*-chloro- and -nitro-, oxidation of (LAW and PERKIN), 1908, T., 1634; P., 195.

isomeric *mono*- and *di*-chloro-, oxidation of (COHEN and MILLER), 1904, T., 174; P., 11.

isomeric *trichloro*-, chlorination of, in presence of the aluminium-mercury couple (COHEN and DAKIN), 1904, T., 1274; P., 180.

isomeric *tetrachloro*-, constitution of, and their nitro-derivatives (COHEN and DAKIN), 1904, T., 1274; P., 180.

2:3:4:5-tetrachloro-, properties of (COHEN and DAKIN), 1906, T., 1453; P., 241.

6-chloro-3-hydroxy-, and 4-chloro-2:3:5-trihydroxy- (HENRICH, TAUBERT, and BIRKNER), 1912, A., i, 185.

2:3:5-trichloro-4:6-dihydroxy-, and its diacetate (ZINCKE, SCHNEIDER, and EMMERICH), 1903, A., i, 759.

2-chloro-3-nitro-, preparation of (HOLLEMAN), 1909, A., i, 93.

2-chloro-3:5-dinitro-, preparation of (BORSCHKE and FIEDLER), 1912, A., i, 175.

3-chloro-4:6-di- and -2:4:6-tri-nitro- (REVERDIN, DRESEL, and DELÉTRA), 1904, A., i, 580.

3:5-dichloro-2:4:6-tri-nitro- (JACKSON and SMITH), 1904, A., i, 802.

$\omega$ -chloro- $\omega$ -nitro- $\omega$ -cyano- (WISLICENUS and SCHÄFER), 1909, A., i, 100.

2:4-dicyano- (BORSCHKE), 1912, A., i, 181.

(*Toluene compounds, Me = 1.*)

**Toluene**, 4-cyano-2-hydroxy-, and its 3:5-dinitro-derivative (BORSCHÉ and BÖCKER), 1904, A., i, 166.

*o*-, *m*-, and *p*-fluoro- (HOLLEMAN), 1906, A., i, 942.

2:4-di-hydroxy-. See Cresorcinol.

2:6-di-hydroxy-, and its benzoyl derivative (HERZIG, WENZEL, and HATSER), 1904, A., i, 247.

3:5-di-hydroxy-. See Orcinol.

*m*-iodo-, containing multivalent iodine, derivatives of (WILLGERODT and UMBACH), 1903, A., i, 743.

*o*-, *m*-, and *p*-iodo-, dichlorides, action of heat on (CALDWELL and WERNER), 1907, T., 240; P., 17.

3:4-di-iodo-, and its chlorination (WILLGERODT and SIMONIS), 1906, A., i, 156.

3-iodo-2-nitro-, 2:5-di-iodo-6-nitro-, and 2:3:6-tri-iodo- (WHEELER and BRAUTLECHT), 1910, A., i, 663.

5-iodo-3-nitro-, 4:5-di-iodo-3-nitro-, and 3:4:6-tri-iodo- (WHEELER and SCHÖLES), 1910, A., i, 663.

2:3-, 2:5-, and 3:5-di-iodo-, 3:4:5-tri-iodo-, and 2-iodo-3-nitro- (WHEELER and LIDDLE), 1910, A., i, 18.

2:3:4:6-tetra-iodo- (WHEELER and HOFFMAN), 1910, A., i, 663.

2-iodo-4-nitro-, derivatives of, with multivalent iodine (WILLGERODT and KOK), 1908, A., i, 620.

3-iodo-6-nitro- and 6-iodo-3-nitro- (ARTMANN), 1905, A., i, 879.

2:3-di-iodo-5-nitro-, 2:3:4-, and 3:5:6-tri-iodo-, 3:4:5:6-tetra-iodo-, and *penta*-iodo- (WHEELER and HOFFMAN), 1911, A., i, 28.

2:5-di-iodo-3- and 4-nitro-, 2:4:6-tri-iodo-, and 2:3:5:6-tetra-iodo- (WHEELER and BRAUTLECHT), 1911, A., i, 27.

*m*-iodoso- and *m*-iodoxy- (WILLGERODT and UMBACH), 1903, A., i, 743.

fluoride (WEINLAND and STILLE), 1903, A., i, 748.

*m*- and *p*-iodoxy-, compounds of, with mercuric bromide and chloride, and *p*-nitro-compound of, with mercuric chloride (MASCARELLI), 1905, A., i, 869.

*o*-, *m*-, and *p*-iodoxy-, molecular weights of, in formic acid (MASCARELLI and MARTINELLI), 1907, A., ii, 228.

nitro-, detection and estimation of, in nitrobenzene (RAIKOW and ÜRKEWITSCH), 1906, A., ii, 310.

*p*-nitro-, formation of, from 2:4-dinitrotoluene (KOHN), 1910, A., i, 660.

(*Toluene compounds, Me = 1.*)

**Toluene**, *o*-nitro-, purification of (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1905, A., i, 639.

two modifications of (V. OSTROMISLENSKY), 1907, A., i, 120;

(KNOEVENAGEL), 1907, A., i, 202.

oxidation of (LAUTH), 1904, A., i, 233.

oxidation of, in the side-chain with manganese dioxide and sulphuric acid (BADISCHE ANILIN- & SODA-FABRIK), 1907, A., i, 407.

compound of, with aluminium chloride (WALKER and SPENCER), 1904, T., 1108; P., 135.

mercury derivatives of (REISSERT), 1907, A., i, 908.

dimercury compound of, and its sulphates and mercury dinitrite (KALLE & Co.), 1909, A., i, 76.

examination of, for the presence of small quantities of *p*-nitrotoluene (HOLLEMAN and JUNGUS), 1905, A., ii, 864.

and *o*-toluidine, estimation of impurities in (HOLLEMAN), 1909, A., ii, 192.

*m*-nitro-, iodo-, iodoso-, and iodoxy-compounds of, and their salts (WILLGERODT and SIMONIS), 1906, A., i, 155.

*p*-nitro-, electrolytic reduction of (GOECKE), 1903, A., i, 615.

kinetics of the sulphonation of (MARTINSEN), 1908, A., ii, 572.

and its derivatives, action of caustic alkalis on (GREEN, DAVIES, and HORSFALL), 1907, T., 2076; P., 289.

action of caustic alkalis on derivatives of (GREEN and BADDILEY), 1908, T., 1721; P., 201.

volumetric estimation of, in crude nitrotoluene (GLASMANN), 1904, A., ii, 151.

*o*- and *p*-nitro-, specific gravity of solutions of (HYDE), 1912, A., ii, 1138.

mercury compounds from (REISSERT), 1907, A., i, 1103.

*m*- and *p*-nitro-, influence of the cathode material on the reduction of (LÖB and SCHMITT), 1904, A., i, 986.

$\omega$ -nitro- (*phenylnitromethane*), preparation of (NEOGI and ADHICARY), 1911, A., i, 120.

spontaneous decomposition of (DIMROTH), 1910, A., i, 831; (HEIM), 1911, A., i, 28.



(*Toluene compounds, Me = 1.*)

- Toluene**,  $\omega$ -nitro-, transformation of, into the  $\omega$ -dinitro-compound (PONZIO), 1908, A., i, 869.
- condensation of, with benzaldehyde (HEIM), 1911, A., i, 717.
- $\omega$ -isonitro-, velocity of transformation of (PATTERSON and McMILLAN), 1908, T., 1048; P., 135.
- silver salt (ANGELI, CASTELLANA, and FERRERO), 1909, A., i, 739.
- 2:3-, 3:4-, and 3:6-dinitro-, preparation and separation of (HOLLEMAN and SIRKS), 1907, A., i, 131.
- 2:4- and 2:6-dinitro-, partial reduction of, by electrolytic methods (BRAND and ZÖLLER), 1907, A., i, 755.
- 2:6-dinitro-, reduction of, by hydrogen sulphide (COHEN and MARSHALL), 1904, T., 527; P., 63.
- $\omega$ -dinitro-, action of diazo-salts on (PONZIO), 1908, A., i, 482.
- and *o*-, *m*-, and *p*- $\omega$ -dinitro-, coloured salts from (HANTZSCH), 1907, A., i, 501.
- p*-bromodiazobenzene salt of (PONZIO), 1909, A., i, 338.
- o*- and *p*-diazotoluene, *o*- and *p*-chlorodiazobenzene, and *o*-bromodiazobenzene derivatives of (PONZIO and CHARRIER), 1909, A., i, 444.
- $\omega$ -2-dinitro-, preparation of (SOCIÉTÉ CHIMIQUE DES USINES DU RHÔNE), 1912, A., i, 756.
- s*-trinitro-, additive compound of isopule and, crystallography of (BOERIS), 1911, A., i, 290.
- additive compounds of, with arylamines (SUDBOROUGH and BEARD), 1910, T., 773; P., 71.
- compounds of, with benzaldehyde-phenylhydrazones (CIUSA and VECCHIOTTI), 1912, A., i, 33.
- additive compounds of, with 2-methylindole, 2:3-dimethylindole carbazole and phenylindole (CIUSA and VECCHIOTTI), 1912, A., i, 755.
- additive compounds of phenolic ethers with (SUDBOROUGH and BEARD), 1911, T., 215; P., 5.
- compound of, with *p*-toluidine (JACKSON and CLARKE), 1906, P., 84.
- p*-nitro-*o*-cyano-, action of caustic alkalis and air on (GREEN, DAVIES, and HORSFALL), 1907, T., 2082.
- 2:4- and 2:6-nitrohydroxylamino-, and 2:4- and 2:6-nitronitroso- (BRAND and ZOLLER), 1907, A., i, 755.

(*Toluene compounds, Me = 1.*)

- Toluene**, 2-nitro-6-hydroxylamino-, new forms of (BRAND), 1911, A., i, 714.
- 3-nitro-4-nitroso- (BAMBERGER and HÜBNER), 1904, A., i, 117.
- 3:5-dinitro-4-nitroamino-, and its silver salt (ZINCKE and KUCHENBECKER), 1905, A., i, 488.
- Toluenes**, nitro-, xylenes and toluidines freezing mixtures of (FISCHER), 1910, A., i, 309.
- p*-nitro-, ring-substituted, action of sodium disulphide on (BLANKSMA), 1909, A., i, 936.
- p*-Tolueneazocacethydrazide (DIMROTH and DE MONTMOLLIN), 1910, A., i, 899.
- p*-Tolueneazo- $\beta$ -amino-8-nitronaphthalene (SMITH), 1906, T., 1509; P., 236.
- p*-Tolueneazo-*p*-benzaldehyde and *p*-benzylidene-*p*-toluidine (ALWAY), 1903, A., i, 707.
- Toluene-*o*-azobenzoic acid** (CHEMISCHE FABRIK VORM. WEILER-TER-MEER), 1904, A., i, 53.
- 4-*p*-Tolueneazo-1-benzoyl-3-methyl-5-pyrazolone (CURTIUS and SCHNEIDERS), 1912, A., i, 138.
- 4-*p*-Tolueneazo-2-bromo-6-nitrophenol, preparation of, and its acetyl and benzoyl derivatives (HEWITT and WALKER), 1906, T., 185; P., 16.
- Tolueneazocarbamilides**, *o*- and *p*- (BUSCH and FREY), 1903, A., i, 538.
- p*-Toluene-2-azo-5-chlorobenzoic acid (FREUNDLER and SEVESTRE), 1909, A., i, 69; (FREUNDLER), 1911, A., i, 758.
- 4-Tolueneazo-*m*-cresol (McPHERSON and BOORD), 1911, A., i, 818.
- p*-Tolueneazodiacetylhydrazine (DIMROTH and DE MONTMOLLIN), 1910, A., i, 899.
- p*-Tolueneazodiethylaniline and its additive salts (GNEHM and BAUER), 1905, A., i, 831.
- Tolueneazodimethylaniline** and dibromo-, coloured salts of (HANTZSCH and HILSCHER), 1908, A., i, 485.
- Tolueneazodimethyldiphenyls**, *o*- and *p*- (EHRENPREIS), 1907, A., i, 453.
- p*-Tolueneazo- $\beta\beta$ -dinaphthylamine (FISCHER and STRAUS), 1908, A., i, 222.
- 4-Tolueneazo-1:3-diphenyl-5-pyrazolone-2'-carboxylic acid (MICHAELIS and LEO), 1910, A., i, 516.
- Tolueneazoeugenols**, *o*-, *m*-, and *p*-, and their acetyl derivatives and ethyl ethers (ODDO and PUXEDDU), 1906, A., i, 992.

(*Toluene compounds, Me = 1.*)

**Tolueneazoisoeugenols**, *o*- and *m*- (PUXEDDU), 1906, A., i, 774.

***o*-Tolueneazo Eugenyl ethyl ether** (AUWERS), 1908, A., i, 229.

**3-*o*-Tolueneazoglutaconic acid**, ethyl ester, *o*-tolylhydrazone (HENRICH, REICHENBURG, NACHTIGALL, THOMAS, and BAUM), 1910, A., i, 901.

**3-*p*-Tolueneazoglutaconic acid**, ethyl ester, *p*-tolylhydrazone (HENRICH, REICHENBURG, NACHTIGALL, THOMAS, and BAUM), 1910, A., i, 901.

***o*-Tolueneazoguaiacol** and its acetyl derivative (COLOMBANO and LEONARDI), 1908, A., i, 68.

**Tolueneazo-*m*-hydroxybenzoic acids**, *o*- and *p*-, and their reduction (PUXEDDU), 1906, A., i, 995.

**Tolueneazo-*p*-hydroxybenzoic acids**, *o*- and *p*-, and their acetyl derivatives, and ethyl ester of the *o*-acid (GRANDMOUGIN and FREIMANN), 1908, A., i, 1024.

**4-*o*-Tolueneazo-5-hydroxy-3-methylisoxazole** (BÜLOW and HECKING), 1911, A., i, 245.

**4-*o*- and -*p*-Tolueneazo-5-hydroxy-3-methylpyrazole** (BÜLOW and HECKING), 1911, A., i, 404.

**4-*o*-Tolueneazo-5-hydroxy-1-phenyl-3-methylpyrazole** (BÜLOW and HECKING), 1911, A., i, 405.

**4-*p*-Tolueneazo-5-hydroxy-1-phenylpyrazole-3-acetic acid** and its ethyl ester (BÜLOW and GÖLLER), 1911, A., i, 1043.

**5-*p*-Tolueneazo-8-hydroxyquinoline** and its derivatives (FOX), 1910, T., 1341.

**Tolueneazo-2- and -3-hydroxy-3- and -4-toluic acids**, 5- and 6-*o*- and -*p*- (PUXEDDU and MACCIONI), 1907, A., i, 798.

**Toluene-4-azo-5-hydroxy-1:2:3-triazole** (DIMROTH and DICKELIN), 1907, A., i, 160.

**4-Tolueneazo-5-hydroxy-1:2:3-triazole-1-acetylbenzylidenehydrazide** (CURTIUS and CALLAN), 1910, A., i, 788.

**4-Tolueneazo-5-hydroxy-1:2:3-triazole-1-acetylglucinebenzylidenehydrazide** (CURTIUS and CALLAN), 1910, A., i, 788.

***o*-Tolueneazoindazole** and its acetyl and benzoyl derivative (GRANDMOUGIN and FREIMANN), 1908, A., i, 1024.

**4-Tolueneazo-3-methyl-5-pyrazolones**, *o*- and *p*-, and their 1-benzoyl derivatives (BÜLOW and SCHAUB), 1908, A., i, 705.

**2-*p*-Tolueneazo- $\alpha$ -naphthol** ( $\beta$ -naphthoquinone-*p*-tolylhydrazone), acetyl derivative of (NOELTING, GRANDMOUGIN, and FREIMANN), 1909, A., i, 442.

(*Toluene compounds, Me = 1.*)

***m*-Tolueneazo- $\beta$ -naphthol** (v. NIEMEN-TOWSKI), 1903, A., i, 133; (NORMAN), 1912, T., 1921.

***m*-Tolueneazo- $\beta$ -naphthol**,  $\omega$ -hydroxy- (LANGGUTH), 1905, A., i, 593.

***p*-Tolueneazo- $\beta$ -naphthol**, 3:5-dibromo- (ORTON), 1903, T., 812; P., 162.

**3-chloro-5-bromo-** (ORTON and REED), 1907, T., 1571.

**Toluene-azo- $\beta$ -naphthols**, chloro-, the orientation of sulphonated, and their lake-forming properties (BADISCHE ANILIN- & SODA-FABRIK), 1907, A., i, 263.

***o*- and *m*-Tolueneazo- $\beta$ -naphthols**, bromo- (GEBHARD and THOMPSON), 1909, T., 1120.

**1-*o*- and -*p*-Tolueneazo-2-naphthyl methyl ethers** and their hydrochlorides (CHARRIER and FERRERI), 1912, A., i, 813.

***p*-Tolueneazo- $\beta$ -naphthylamine** (CHARRIER), 1910, A., i, 287.

***o*-, *m*-, and *p*-Tolueneazo- $\beta$ -naphthylamines** and their derivatives (NORMAN), 1912, T., 1918; P., 232.

**Toluene-2-azo- $\beta$ -naphthylamine-4:5-disulphide** (FICHTER, FRÖHLICH, and JALON), 1907, A., i, 1031.

**Tolueneazo-7-nitroindazole**, 3-nitro- and its polymeride (NOELTING), 1904, A., i, 690.

**$\omega$ -*o*- and -*p*-Tolueneazo- $\omega$ -dinitrotoluene** (PONZIO and CHARRIER), 1909, A., i, 444.

***p*-Tolueneazo-orcinol**, 3:5-dibromo- (ORTON and EVERATT), 1908, T., 1020.

**Toluene-*o*-azophenetole**, reduction of (JACOBSON, FRANZ, and ZAAR), 1904, A., i, 121.

***p*-Tolueneazo-*o*-phenetole** (JACOBSON and HUBER), 1909, A., i, 852.

***o*-Tolueneazophenol** and its acetyl derivative and benzenesulphonyl ester (GRANDMOUGIN and FREIMANN), 1908, A., i, 1023.

***p*-Tolueneazophenol**, *o*- and *m*-nitro-, and the acetyl compound of the *m*-nitro- (HEWITT and MITCHELL), 1905, T., 231; P., 61.

**Tolueneazophenyl benzoate** (HANTZSCH and GLOVER), 1907, A., i, 101.

***p*-Toluene-4-azo-1-phenyl-3-methyl-5-pyrazolone** (LAPWORTH), 1903, T., 1124; P., 149.

**4-*o*- and -*p*-Tolueneazo-3-phenylisoxazolone**, and *o*- and *m*-nitro-derivatives of the *p*-compound (MEYER), 1911, A., i, 341.

(Toluene compounds, Me = 1.)

*m*-Toluene-4-azoresorcinol, 2:4:6-tri-bromo- (ORTON and EVERATT), 1908, T., 1018.

*p*-Toluene-4-azoresorcinol, 3:5-dibromo- (ORTON and EVERATT), 1908, T., 1018.

*o*-Tolueneazosalicylic acid and its acetyl derivative (GRANDMOUGIN, GUISAN, and FREIMANN), 1907, A., i, 987.

*p*-Tolueneazosalicylic acid and *o*-nitro-, and their acetyl derivatives (GRANDMOUGIN and GUISAN), 1907, A., i, 1092.

Tolueneazosalicylic acids, *o*-, *m*-, and *p*-, and their nitro- and acetyl derivatives (GRANDMOUGIN and GUISAN), 1908, A., i, 927.

*o*-Tolueneazo-*o*-tolueneazodimethylaniline and its hydrochloride (HEWITT and THOLE), 1909, T., 1396; P., 208.

2-*p*-Tolueneazo-*m*-toluic acid (FREUNDLER and SEVESTRE), 1909, A., i, 69; (FREUNDLER), 1911, A., i, 758.

*p*-Tolueneazo-*o*-toluidine, coloured salts of (HANTZSCH and HILSCHER), 1908, A., i, 485.

Tolueneazo-*p*-tolyl acetates, 3-*o*- and 3-*m*-, and their *O*-acetylhydrazo-derivatives (AUWERS, HIRT, and V. DER HEYDEN), 1909, A., i, 438.

4-Tolueneazo-*m*-tolyl benzoate (McPHERSON and BOORD), 1911, A., i, 818.

*p*-Tolueneazo-*p*-tolyl propionate and its hydrazo-derivative (AUWERS, HIRT, and MÜLLER), 1909, A., i, 223.

Toluene-*o*-azo-*o*-tolyl- and Toluene-*p*-azo-*p*-tolyl-phenylamine-*o*-carboxylic acids (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1904, A., i, 353.

5-*o*-Tolueneazo-1-*o*-tolyl-6-pyridazone-3-carboxylic acid, ethylester (HENRICH, REICHENBURG, NACHTIGALL, THOMAS, and BAUM), 1910, A., i, 901.

Toluene-4-azo-5-triazolone and its 1-acetic acid and its amide (CURTIUS and THOMPSON), 1907, A., i, 95.

*o*-Toluene-*o*-azoxybenzoic acid,  $\omega$ -hydroxy- (BAMBERGER and REMMERT), 1907, A., i, 164.

*p*-Tolueneazo-4-*m*-xylenol and its ethyl ether (JACOBSON and FULDA), 1909, A., i, 853.

Tolueneazo-. See also Tolylazo-.

*o*-Toluenebisazo- $\beta$ -naphthol, *di*- and *tri*-thio- (HONGSON), 1912, T., 1699; P., 222.

*p*-Toluene- $\beta$ -diazoaminonaphthalene-8-sulphonic acid, sodium salt (SMITH), 1906, T., 1506; P., 236.

(Toluene compounds, Me = 1.)

*p*-Toluenediazobis-4-dimethylamino-benzaldoxime (BRESLER, FRIEDEMANN, and MAT), 1906, A., i, 322.

Toluenediazoimide, 3:5-dinitro- (ZINCKE and MALKOMESIUS), 1905, A., i, 487.

Toluenediazonium bromides, *o*- and *p*-, preparation of (CHATTAWAY), 1908, T., 960.

chlorides, *o*-, *m*-, and *p*-, action of potassium ferrocyanide on (EHRENPREIS), 1907, A., i, 453.

*o*-Toluenediazonium, 3:5-dinitro-, nitrate of, and its  $\beta$ -naphthylamine derivative, and perbromide (ZINCKE and MALKOMESIUS), 1905, A., i, 487.

*m*-Toluenediazonium chloride and sulphate, action of sulphur dioxide on (TRÖGER, HILLE, and VASTERLING), 1906, A., i, 120; (TRÖGER and SCHAUB: TRÖGER, WARNECKE, and SCHAUB), 1906, A., i, 993.

*p*-Toluenediazonium hydroxide, action of ethyl alcohol on (ROBERTS and ALLEMAN), 1911, A., i, 369. sulphate (ALLEMAN), 1904, A., i, 202.

*p*-Toluenediazonium, 3-chloro-5-bromo-, hydrogen carbonate and hydrogen sulphate, replacement of halogen by hydroxyl in (ORTON and REED), 1907, T., 1570; P., 212.

*o*- and *p*-Toluenediazonium chlorides, compounds of, with antimony trichloride (MAX), 1912, T., 1038.

*p*-Toluenediazo- $\psi$ -semicarbazinocamphor and its decomposition by alkali (FORSTER), 1906, T., 235; P., 31.

Toluene-*p*-diazotrimethyl-4:6-diamino-*m*-xylene (MORGAN and MICKLETHWAIT), 1907, T., 370.

Toluene-3:5-dicarboxylic acid. See Uvic acid.

Toluene-2:4-disulphinic acid and its salts and methyl ester (TRÖGER and MEINE), 1904, A., i, 31.

Toluene-2:4-disulphonic acid and its bromide and chloride (TRÖGER and MEINE), 1904, A., i, 31.

Toluene-*o*-hydrazobenzoic acid (CHEMISCHE FABRIK VORM. WEILER-TERMEER), 1904, A., i, 53.

Toluene-*o*- and -*p*-hydrazo-*m*- and -*p*-cresotoles (JACOBSON and HUGERSHOFF), 1904, A., i, 107.

*p*-Toluenehydrazoengenyl acetate (AUWERS), 1908, A., i, 228.

*o*-Toluenesulphanilide (ULLMANN and LEHNER), 1905, A., i, 290.

*m*-Toluenesulphinic acid and its salts (TRÖGER and HILLE), 1905, A., i, 336.



(*Toluene compounds, Me = 1.*)

*p*-Toluenesulphonic acid (HEIDUSCHKA), 1909, A., i, 144.

preparation of (KNOEVENAGEL and KENNER), 1908, A., i, 971.

derivatives of (v. MEYER), 1903, A., i, 808.

alkaloidal salts, and their rotatory power (HILDITCH), 1908, T., 1621.

mercuric salt (PETERS), 1905, A., i, 640.

Toluene- $\omega$ -sulphinic acid (*benzylsulphinic acid*) and its salts (FROMM and DE SEIXAS PALMA), 1906, A., i, 819.

Toluenesulphonic acids, *o*- and *p*-, ferric salts, reactions of (THOMAS), 1909, T., 343.

Toluene-*p*-sulphinic anhydride, preparation of (KNOEVENAGEL and POLACK), 1908, A., i, 971.

*p*-Toluenesulphiny chloride (HILDITCH and SMILES), 1909, A., i, 19.

Toluene-2-sulpho-alanine, -glycine, and -glutamic acid, 4-nitro- (SIEGFRIED), 1905, A., i, 59.

Toluene-*p*-sulphonalkylamides and 2-nitro- (CHATTAWAY), 1905, T., 159.

Toluenesulphonamides, fusion of, with 1-phenyl- or 1-*p*-tolyl-2:3-dimethyl-5-pyrazolone (VOSWINKEL), 1911, A., i, 498.

Toluene-*o*- and -*p*-sulphonamides, separation of (BARGE and GIVAUDAN), 1905, A., i, 124.

Toluene-2-sulphonanilide, 4-nitro- (ULLMANN and GSCHWIND), 1908, A., i, 623.

*p*-Toluenesulphonarychloroamides (CHATTAWAY), 1904, T., 1181; P., 168.

*p*-Toluenesulphonchloromethylamide (CHATTAWAY), 1904, P., 208.

Toluenesulphonic acid, *p*-fluoro-, amide and chloride of (HOLLEMAN), 1906, A., i, 942.

*o*-Toluenesulphonic acid, 4-methylamino- and 2:3-dinitro-4-methylamino-phenyl esters (REVERDIN and DE LUC), 1909, A., i, 377.

*o*-Toluenesulphonic acid, 4-nitro-, cerous salt (MORGAN and CAHEN), 1907, A., i, 1021.

*m*-Toluenesulphonic acid,  $\omega$ -dichloro-, and its chloride and sodium salt (BADISCHE ANILIN- & SODA-FABRIK), 1912, A., i, 176.

6-nitro-4-thiol, and its dipotassium salt and disulphide and its derivatives (FICHTER, FRÖHLICH, and JALON), 1907, A., i, 1031.

(*Toluene compounds, Me = 1.*)

*p*-Toluenesulphonic acid, electrolytic oxidation of (ŠEBOR), 1903, A., i, 554.

alkaloidal salts, and their rotatory power (HILDITCH), 1908, T., 1621.

esters, as alkylating agents (ULLMANN and WENNER), 1903, A., i, 407.

2:4-diaminophenyl ester and its diacetyl derivative, 2:4-dinitrophenyl ester, 2:4-dinitrophenylpyridinium ester, and 3:5-dinitrotolyl ester (ULLMANN and NÁDAI), 1908, A., i, 526.

2-amino-*p*-tolyl ester and sodium sulphobenzene-5-azo-2-amino-*p*-tolyl ester (ANILINFARBEN- & EXTRAKT-FABRIKEN VORM. GEIGY & Co.), 1908, A., i, 1022.

bornyl and ethylpyridinium esters (FERNS and LAPWORTH), 1912, T., 276.

4-chloro-2:6-dinitrophenyl and 3:5-dinitro-*o*-tolyl esters (ULLMANN and SANÉ), 1912, A., i, 104.

*o*-hydroxylaminophenyl, *o*-nitrosohydroxylaminophenyl, and *o*-nitroso-phenyl esters of (BAUDISCH and KARZEFF), 1912, A., i, 442.

$\alpha$ -naphthyl ester (AKTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION), 1912, A., i, 183.

2:4-dinitro- $\alpha$ -naphthyl and 2:4-dinitro- $\alpha$ -naphthylpyridinium esters (ULLMANN and BRUCK), 1909, A., i, 21.

3:5-dinitro-*p*-tolyl ester (ULLMANN), 1908, A., i, 626.

2:4:6-trinitro-3-hydroxyphenyl ester, diethylaniline salt (ULLMANN and BRUCK), 1909, A., i, 23.

2:5-diphenylphenyl ester (FICHTER and WALTER), 1910, A., i, 29.

*p*-Toluenesulphonic acid,  $\omega$ -chloro- (BADISCHE ANILIN- & SODA-FABRIK), 1912, A., i, 176.

$\omega$ -2-dichloro-, ethyl ester (BADISCHE ANILIN- & SODA-FABRIK), 1912, A., i, 176.

2-nitro-, 5-nitro-*o*-tolyl ester (REVERDIN), 1912, A., i, 436.

Toluene- $\omega$ -sulphonic acid (*benzylsulphonic acid*), compounds of, with amino-carboxylic esters (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1904, A., i, 413.

anilide, *o*-phenetidine, and *p*-toluidide of (FROMM and DE SEIXAS PALMA), 1906, A., i, 819.

(*Toluene compounds, Me = 1.*)

**Toluene- $\omega$ -sulphonic acid**, 3-amino-6-hydroxy-, and 3-nitro-6-hydroxy- (FARBENFABRIKEN VORM. F. BAYER & Co.), 1904, A., i, 579.

*o*-chloro-*m*-nitro-, and its sodium salt (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1905, A., i, 124.

2-chloro-5-nitro-, and 5-nitro-2-amino-, and their salts (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1904, A., i, 662.

chlorodinitro-, and its calcium salt (KALLE & Co.), 1903, A., i, 616.

*o*-, *m*-, and *p*-nitro-, electrolytic reduction of (WEISS and REITER), 1907, A., i, 841.

nitroaminohydroxy-, and its salts and diazonium compound (KALLE & Co.), 1903, A., i, 616.

**Toluene- $\omega$ -sulphonic acids**, chlorinated, preparation of (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1904, A., i, 390.

*p*-Toluenesulphon-*m*-iodo-anilide and -methylanilide (ULLMANN), 1904, A., i, 727.

*o*-Toluenesulphonmethylamide (REMSEN and CLARK), 1903, A., i, 823.

*p*-Toluenesulphonmethyl-*p*-nitroanilide (AKTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION), 1910, A., i, 727.

*p*-Toluenesulphon-*o*-toluidide (CHATTAWAY), 1904, T., 1186.

*o*-Toluenesulphonyl bromide and chloride, preparation of (ULLMANN and LEHNER), 1905, A., i, 289.

*p*-Toluenesulphonyl bromide and 3-bromo-, chloride (ZINCKE and FROHNEBERG), 1910, A., i, 315.

**Toluene- $\omega$ -sulphonyl bromide** (FROMM and GAUPP), 1908, A., i, 970.

*p*-Toluenesulphonyl chloride, electrolytic reduction of (FICHTER and BERNOULLI), 1907, A., i, 690.

action of arsenites on (GUTMANN), 1909, A., i, 144.

action of, on thiocarbamide (FROMM and HEYDER), 1909, A., i, 903.

*p*-Toluenesulphonyl chloride, *o*-chloro- (GESELLSCHAFT FÜR CHEMISCHE INDUSTRIE IN BASEL), 1903, A., i, 331.

2:6-dichloro-, and 2:3:6-trichloro- (ANILIN-FARBEN & EXTRAKT-FABRIKEN VORM. GEIGY & Co.), 1909, A., i, 706.

2-nitro-, electrolytic reduction of (FICHTER and BERNOULLI), 1910, A., i, 20.

(*Toluene compounds, Me = 1.*)

**Toluene- $\omega$ -sulphonyl chloride**, *o*-chloro- (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1911, A., i, 445.

**Toluene-*m*- and -*p*-sulphonyl chlorides**,  $\omega$ -chloro-,  $\omega$ -2-dichloro-, and  $\omega$ -6-dichloro- (BADISCHE ANILIN- & SODA-FABRIK), 1911, A., i, 850.

*o*-Toluenesulphonylacetic acid and its silver salt (FRIEDLÄNDER and CHWALA), 1907, A., i, 526.

**Toluenesulphonylacetic acids**, amides, nitriles, and thioamides of, and the chloro- and bromo-derivatives of the para-amide (TRÖGER and HILLE), 1905, A., i, 336.

**Toluene-*p*-sulphonylalanine** (POPE and GIBSON), 1912, T., 945.

*p*-Toluenesulphonyl-allylamine, -allyl-isobutylamine, and -isobutylamine (WEDEKIND and OBERHEIDE), 1909, A., i, 904.

**Toluenesulphonylamino-** See also under the parent Substance.

1- and 2-*p*-Toluenesulphonylaminoanthraquinones (ULLMANN), 1910, A., i, 751.

4-*p*-Toluenesulphonylaminoanthraquinone-2:1-acridone (ULLMANN and BILLIG), 1911, A., i, 491.

**Toluene-*p*-sulphonylaminobenzeneazo- $\beta$ -naphthol** (MORGAN and MICKLETHWAIT), 1905, T., 1305.

**Toluene- $\omega$ -sulphonyl-*p*-aminobenzeneazo- $\beta$ -naphthol** (MORGAN and PICKARD), 1910, T., 57.

*p*-Toluenesulphonyl-*o*-amino-benzoic acid and -benzophenone (ULLMANN and BLEIER), 1903, A., i, 176.

*p*-Toluenesulphonyl-2-amino-2':4', 2':5', and -3':4'-dimethoxybenzophenones (ULLMANN and DENZLER), 1907, A., i, 142.

*p*-Toluenesulphonyl-2-amino-4'-methoxybenzophenone (ULLMANN and BLEIER), 1903, A., i, 176.

2-Toluene-*p*-sulphonyl-1:2:6-triamino-naphthalene (MORGAN and MICKLETHWAIT), 1912, T., 150.

*p*-Toluenesulphonyl-2-aminophenyl  $\alpha$ - and  $\beta$ -methoxynaphthyl ketones (ULLMANN and DENZLER), 1907, A., i, 143.

4-*p*-Toluenesulphonylamino-*N*-phenylpyridazonanthrone (ULLMANN and MINAJEFF), 1912, A., i, 389.

*p*-Toluenesulphonyl-*o*-aminophenyl *p*-tolyl ketone (ULLMANN and BLEIER), 1903, A., i, 176.

2-*p*-Toluenesulphonyl-aminotoluene- and -methylaminotoluene-5-azo- $\beta$ -naphthols (MORGAN and MICKLETHWAIT), 1906, A., i, 911.

(*Toluene compounds, Me = 1.*)

4-Toluenesulphonylaminotoluene, dinitro-derivatives of (REVERDIN and DE LUC), 1911, A., i, 38.

*p*-Toluenesulphonyl-2-amino-2':3':4'-trimethoxybenzophenone (ULLMANN and DENZLER), 1907, A., i, 143.

1-*p*-Toluenesulphonylanilinocanthraquinone (ULLMANN and FODOR), 1911, A., i, 467.

Toluene-*p*-sulphonyl-*p*-anisidide, *o*-nitro-, and its derivatives (REVERDIN and DE LUC), 1912, A., i, 182.

*p*-Toluenesulphonylanthranilic acid, ethyl ester, and chloride (SCHROETER and EISLER), 1909, A., i, 576.

*p*-Toluenesulphonylaziminotoluene (ULLMANN and GROSS), 1910, A., i, 886.

*p*-Toluenesulphonyl-*p*-aziminotoluene and -*p*-tolylenediamine (MORGAN and MICKLETHWAIT), 1906, A., i, 911.

Toluene-*p*-sulphonylisobutylamide (POPE and READ), 1912, T., 521.

9-*p*-Toluenesulphonylnaphthazone (CASSELLA and Co.), 1910, A., i, 775.

4-Toluene-*p*-sulphonyldiphenyliodonium salts (WILLGERODT and PLOCKSTIES), 1912, A., i, 257.

Toluenesulphonylethenylaminooximes, *o*- and *p*- (TRÖGER and VOLKMER), 1905, A., i, 356.

Toluene-*o*- and -*p*-sulphonyl-halogen- and -alkylhalogen-amides and 2-nitro-derivatives of the *p*-compounds (CHATTAWAY), 1905, T., 151; P., 7.

1-*p*-Toluenesulphonylmethylaminocanthraquinone (ULLMANN), 1911, A., i, 136; (ULLMANN and FODOR), 1911, A., i, 466.

Toluene-*p*-sulphonylmethylamino-*p*-benzene-2-azo-7-amino- $\alpha$ -naphthol-3-sulphonic acid, sodium salt (MORGAN and MICKLETHWAIT), 1912, T., 146.

*p*-Toluenesulphonyl-*o*-methylaminobenzoic acid, methyl ester, and -benzophenone (ULLMANN and BLEIER), 1903, A., i, 176.

2-Toluene-*p*-sulphonyl-2-methyl-1:2:6-triaminonaphthalene (MORGAN and MICKLETHWAIT), 1912, T., 152.

*p*-Toluenesulphonylmethyl-3-amino-*p*-toluidide (ULLMANN and GROSS), 1910, A., i, 886.

4-Toluene-*p*-sulphonyl-4-methyl-4:6-diamino-*m*-xylene and its hydrochloride and acetyl and azo- $\beta$ -naphthol derivatives (MORGAN and MICKLETHWAIT), 1907, T., 364.

Toluene-*p*-sulphonylmethyl- $\beta$ -naphthylamine (MORGAN and MICKLETHWAIT), 1912, T., 150.

(*Toluene compounds, Me = 1.*)

2-Toluene-*p*-sulphonyl-2-methyl-1:2-naphthylenediamine (MORGAN and MICKLETHWAIT), 1912, T., 151.

Toluene-*p*-sulphonylmethyl-*m*- and -*p*-nitroanilines (MORGAN and MICKLETHWAIT), 1912, T., 144.

Toluene-*p*-sulphonylmethyl-1-nitro- and 1:6-dinitro- $\beta$ -naphthylamine (MORGAN and MICKLETHWAIT), 1912, T., 150.

*p*-Toluenesulphonylmethyl-3-nitro- and 3:5-dinitro-*p*-toluidide (ULLMANN and GROSS), 1910, A., i, 886.

*p*-Toluenesulphonylmethyl-*p*-phenylenediamine (AKTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION), 1910, A., i, 727.

*as*-Toluene-*p*-sulphonylmethyl-*m*- and -*p*-phenylenediamines and their derivatives (MORGAN and MICKLETHWAIT), 1912, T., 145.

*p*-Toluenesulphonylmethyl-*p*-tolylenediamine (MORGAN and MICKLETHWAIT), 1906, A., i, 911.

*p*-Toluenesulphonylnaphthastyril (ULLMANN and CASSIRER), 1910, A., i, 201.

2-Toluene-*p*-sulphonyl-1:2-naphthylenediamine and its -6-sulphonic acid (MORGAN and MICKLETHWAIT), 1912, T., 149.

Toluene-*p*-sulphonyl-6-nitro-4-amino-*m*-xylene and its *N*-methyl derivative (MORGAN and MICKLETHWAIT), 1907, T., 363.

Toluene-*p*-sulphonyl-*m*-nitroaniline (MORGAN and MICKLETHWAIT), 1906, T., 1292.

Toluene-*p*-sulphonyl-*p*-nitroaniline (MORGAN and MICKLETHWAIT), 1905, T., 1303.

Toluene- $\alpha$ -sulphonyl-*p*-nitroaniline (MORGAN and PICKARD), 1910, T., 56.

Toluene-*p*-sulphonyl-*tr*-nitroanisidide (REVERDIN), 1912, A., i, 963.

Toluene-*p*-sulphonyl-1:6-dinitro- $\beta$ -naphthylamine (MORGAN and MICKLETHWAIT), 1911, P., 326; 1912, T., 148.

*p*-Toluenesulphonyl-5-nitro-*o*-toluidine and its *N*-methyl derivative (MORGAN and MICKLETHWAIT), 1906, A., i, 911.

*p*-Toluenesulphonyl-3-nitro-*p*-toluidine (ULLMANN and GROSS), 1910, A., i, 886.

*p*-Toluenesulphonyl-3:5-dinitro-*p*-toluidine, nitro- (ULLMANN and GROSS), 1910, A., i, 886.

*p*-Toluenesulphonyloxylanilinoacetic acid and its ethyl ester and di- and tri-nitro-derivatives (REVERDIN and DE LUC), 1909, A., i, 914.



(*Toluene compounds, Me = 1.*)

1-*p*-Toluenesulphonylphenylamino-anthraquinone (ULLMANN), 1911, A., i, 136.

Toluene-*p*-sulphonyl-*m*-phenylenediamine and diazotisation, and azo- $\beta$ -naphthol derivative (MORGAN and MICKLETHWAIT), 1906, T., 1292.

Toluene-*p*-sulphonyl-*p*-phenylenediamine and its derivatives (WILLSTÄTER and PFANNENSTIEL), 1905, A., i, 669.

and its diazotisation (MORGAN and MICKLETHWAIT), 1905, T., 1303; P., 222.

Toluene- $\omega$ -sulphonyl-*p*-phenylenediamine (MORGAN and PICKARD), 1909, P., 301; 1910, T., 56.

as-Toluene-*p*-sulphonyl-*m*- and -*p*-phenylenediamines (MORGAN and MICKLETHWAIT), 1911, P., 326.

Toluene- $\omega$ -sulphonyl-*p*-phenylenediazomide (MORGAN and PICKARD), 1909, P., 301; 1910, T., 57.

*p*-Toluenesulphonylphenylethylamine (JOHNSON and GUEST), 1909, A., i, 785.

*p*-Toluenesulphonylpropylisobutylamide preparation of (POPE and READ), 1912, T., 521.

*p*-Toluenesulphonyltolylene-3:4-diamine and its hydrochloride (ULLMANN and GROSS), 1910, A., i, 886.

Toluene-*p*-thiosulphonic acid, sodium salt, action of arsenites and cyanides on (GUTMANN), 1908, A., i, 972.

*p*-Toluene- $\beta$ -triazoehtylsulphonamide (FORSTER and NEWMAN), 1911, T., 1280; P., 154.

Toluic acid, amino-*m*-hydroxy- (*amino-m-cresotic acid*) hydrochloride (PUX-EDDU), 1909, A., i, 721.

chlorodinitro- (two) (KUNCKELL), 1908, A., i, 729.

*o*-, *m*-, and *p*-hydroxy-, hydrazine compounds of (FRANZEN and EICHLER), 1908, A., i, 831.

*o*-Toluic acid, salts of, with organic bases (SUPBOROUGH and ROBERTS), 1904, T., 241.

ethylene ester (FARBENFABRIKEN VORM. F. BAYER & Co.), 1912, A., i, 554.

*o*-Toluic acid,  $\omega$ -amino- (WEGSCHEIDER and GLOGAU), 1904, A., i, 250.

5-bromo- (KONOWALOFF), 1904, A., i, 657.

5-chloro-3-amino- (KALLE & Co.), 1912, A., i, 209.

3:5-dichloro-6-nitro- (CROSSLEY), 1904, T., 281; P., 21.

(*Toluene compounds, Me = 1.*)

*o*-Toluic acid, 4-hydroxy-, and its bromo-derivatives and their acetyl compounds, and bromoamino-, and bromonitro-derivatives (ZINCKE and FISCHER), 1907, A., i, 132.

reduction of (BAUDISCH, HIBBERT, and PERKIN), 1909, T., 1870; P., 249.

action of bromine on (ZINCKE and BUFF), 1908, A., i, 643.

6-hydroxy-, reduction of (BAUDISCH and PERKIN), 1909, T., 1883; P., 249.

*p*-nitro-, action of caustic alkalis and hypochlorites on (GREEN, DAVIES, and HORSFALL), 1907, T., 2081.

*m*-Toluic acid (MÜLLER), 1909, A., i, 159.

ultra-violet absorption spectra of (BALY), 1907, T., 846.

nitration of (WHEELER and HOFFMAN), 1911, A., i, 50.

reactions of, and its 2-amino-, and 2-nitro-derivatives and their esters, amides and nitrites (JÜRGENS), 1907, A., i, 1036.

ethyl ester, density, magnetic rotation, and refractive power of (PERKIN), 1907, T., 845.

*m*-Toluic acid, 2- and 4-amino- and -nitro- (FINDEKLEE), 1906, A., i, 21.

$\omega$ -amino-, *N*-acyl derivatives of (EINHORN, BISCHKOPFF, SZELINSKI, and MAUERMAYER), 1906, A., i, 247.

4:6-diamino-, acetyl derivative (BOGERT and KROFF), 1909, A., i, 584.

5-bromo-6-hydroxy- (ROBERTSON), 1908, T., 789; P., 73; (MOIR), 1911, P., 227.

$\omega$ -chloro-6-hydroxy-, and 6-hydroxy-, ethyl esters (AUWERS), 1906, A., i, 839.

2-hydroxy-, and its derivatives, and the action of phosphorus chlorides on (ANSCHÜTZ, SCHROEDER, WEBER, and ANSPACH), 1906, A., i, 505.

4-hydroxy-, action of phosphorus chlorides on (ANSCHÜTZ and SCHROEDER), 1906, A., i, 507.

5-hydroxy-, reduction of (MELDRUM and PERKIN), 1909, T., 1889; P., 249.

$\omega$ -hydroxy-, and its nitrile (LANGGUTH), 1905, A., i, 593.

2-iodo-, and its methyl ester (MAYER), 1911, A., i, 870.

5-iodo-4-amino-, and its ethyl ester (WHEELER and HOFFMAN), 1910, A., i, 666.

(*Toluene compounds, Me = 1.*)

*m*-Toluic acid, 2-nitro- (NOELTING and GACHOT), 1906, A., i, 181.

4-, 5-, and 6-nitro-, methyl esters, and 5-amino- (MÜLLER), 1909, A., i, 160.

4:6-dinitro-, and its ethyl ester, and 6:4-nitroamino-, methyl ester (ERRERA and MALTESE), 1904, A., i, 307.

4-nitro-6-amino- and 6-nitro-4-amino-, and their *N*-acetyl derivatives and their salts (ERRERA and MALTESE), 1906, A., i, 84.

2-nitroso- (FREUNDLER), 1911, A., i, 758.

preparation of (FREUNDLER and SEVESTRE), 1909, A., i, 70.

$\psi$ -*m*-Toluic acid. See  $\Delta^{\alpha\epsilon}$ -Heptadiene- $\delta$ -carboxylic acid.

*p*-Toluic acid, *p*-tolyl ester of (MASCARELLI and RUSSI), 1910, A., i, 746.

*p*-Toluic acid, *o*-amino-, acetyl derivative (KUNCKELL), 1911, A., i, 991.

2:6-diamino-, methyl ester and acetyl derivative (KAUFFMANN and WEISSEL), 1912, A., i, 865.

$\omega$ -chloro-, and its chloride (BADISCHE ANILIN- & SODA-FABRIK), 1912, A., i, 176.

$\omega$ -dichloro-, methyl ester (WEGSCHEIDER and SUIDA), 1912, A., i, 976.

chloroimino-, chloroimino-2-nitro-, and imino-2-nitro-, isomeric esters of (HILPERT), 1908, A., i, 830.

2-hydroxy-, preparation and reduction of (MELDRUM and PERKIN), 1908, T., 1420; P., 187.

3-hydroxy-, action of phosphorus chlorides on (ANSCHÜTZ and SCHROEDER), 1906, A., i, 506.

2:5-dihydroxy- (*hydroxyhomosalicylic acid*), constitution of (SCHMID), 1911, A., i, 780.

3-hydroxy-5-nitro- (CLAYTON), 1910, T., 1402.

$\omega$ -iodo- (KNOLL & Co.), 1911, A., i, 432.

6-nitro-3-hydroxy- ("6-nitro-3-hydroxy-2-cresotic acid") (BORSCHÉ and BERKHOUT), 1904, A., i, 416.

3:5-dinitro-2-hydroxy- (BORSCHÉ and BÖCKER), 1904, A., i, 166.

Toluic acids, condensing influence of potassium persulphate on the (FISCHER and WOLFFENSTEIN), 1904, A., i, 896.

*m*- and *p*-, acid salts of, and the effect of water and alcohol on them (FARMER), 1903, T., 1442; P., 274.

(*Toluene compounds, Me = 1.*)

Toluic acids, *o*-, *m*-, and *p*-, preparation of anhydrides of, and silver salts, action of sulphur monochloride on (DENHAM), 1909, T., 1239; P., 179.

methyl esters of (COHEN and DUDLEY), 1910, T., 1749.

Toluic acids, hydroxy- (*cresotic acids*), anilides of (EINHORN and METTLER), 1903, A., i, 30.

azo-derivatives of (PUXEDDU and MACCIONI), 1907, A., i, 798.

*o*- and *p*-thiol- (WEIGERT), 1903, A., i, 418.

*m*-Toluic anhydride (DENHAM), 1909, T., 1240; P., 179.

*p*-Toluic selenoamide (BECKER and MEYER), 1904, A., i, 698.

*p*-Toluidides, anilides, and  $\alpha$ -naphthalides of normal fatty acids, melting points of (ROBERTSON), 1908, T., 1033; P., 120.

Toluidilacetonedicarboxylic acids, *o*-, *m*-, and *p*-, and their amides and imides (SCHROETER and STASSEN), 1905, A., i, 820.

*o*-Toluidine, preparation of pure, and a method for ascertaining its purity (HOLLEMAN), 1905, A., i, 272.

latent heat of vaporisation of (LUGNIN), 1903, A., ii, 7.

influence of temperature on the action of acetyl thiocyanate on (DORAN and DIXON), 1905, T., 338; P., 77.

action of dichloroacetic acid on (v. OSTROMISLENSKY), 1908, A., i, 82.

condensation of formaldehyde with (NASTUKOFF and KRONEBERG), 1912, A., i, 962.

action of ethyl chloroacetate on the magnesium halogen compound of (BODROUX), 1905, A., i, 643.

phosphorus compounds of (LEMOULT), 1904, A., i, 380.

hydrogen phosphite (LEMOULT), 1906, A., i, 493.

acetyl derivative. See Aceto-*o*-toluidide.

$\alpha$ -iodopropionyl and  $\alpha$ -iodobutyryl derivatives (BODROUX and TABOURY), 1907, A., i, 754.

magnesium iodide, action of esters of  $\alpha$ -iodo-fatty acids on (BODROUX and TABOURY), 1907, A., i, 754.

and *o*-nitrotoluene, estimation of impurities in (HOLLEMAN), 1909, A., ii, 192.

*o*-Toluidine, *mono*- and *di-m*-bromo-, oxalyl derivative (TACSSIG), 1904, A., i, 663.

(*Toluene compounds, Me = 1.*)

- o*-Toluidine, 6-bromo-, and its acetyl derivative (FRIEDLÄNDER, BRUCKNER, and DEUTSCH), 1912, A., i, 318.
- 3:5-*di*bromo-4-nitro- (BLANKSMA), 1909, A., i, 780.
- 5-chloro-6-nitro- and 6-nitro-5-hydroxy-, and its diacetyl derivative (BRAND and ZÖLLER), 1907, A., i, 756.
- 5-iodo- (FICHTER and PHILIPP), 1907, A., i, 83.
- 3-iodo-5-nitro- (WHEELER and HOFFMAN), 1911, A., i, 28.
- 5-iodo-3- and -4-nitro-, and -4:5-*di*iodo- (WHEELER and BRAUTLECHT), 1911, A., i, 27.
- 5-iodo-6-nitro- and 3:6-*di*iodo- (WHEELER and BRAUTLECHT), 1910, A., i, 663.
- 4-nitro-, bromination of (MORGAN and CLAYTON), 1905, T., 951.
- hydrochloride of (WILLGERODT and KOK), 1908, A., i, 620.
- di*- and *tri*-thio-, and their salts and derivatives (HODGSON), 1912, T., 1696; P., 222.
- m*-Toluidine, effect of heat on a mixture of benzaldehydecyanohydrin and (BAILEY and McCOMBIE), 1912, T., 2272; P., 266.
- picrate, preparation and crystallography of (JERUSALEM), 1909, T., 1284.
- p*-toluene-sulphinic acid and -sulphonate (v. MEYER and E. MEYER), 1903, A., i, 810.
- new sensitive indicator from (TRÖGER and HILLE), 1904, A., i, 118.
- m*-Toluidine, 2:4:6-*tri*bromo-5-nitro- (BLANKSMA), 1909, A., i, 780.
- 2-, 4-, and 6-chloro- (BAMBERGER and DE WERRA), 1903, A., i, 21; (BAMBERGER, TER-SARKISSJANZ, and DE WERRA), 1903, A., i, 25.
- 2-iodo- (WHEELER and LIDDLE), 1910, A., i, 18.
- p*-iodo-, and its 6-chloro-derivatives, and their salts and acyl derivatives (WILLGERODT and SIMONIS), 1906, A., i, 156.
- phenylthiocarbamide derivative, 5-iodo-, and 4:5-*di*iodo-, and their acetyl derivatives (WHEELER and SCHOLES), 1910, A., i, 663.
- 2:4-*di*iodo-, and 2:4:6-*tri*iodo-, and their derivatives (WHEELER and HOFFMAN), 1910, A., i, 662.
- 2:5-*di*iodo-, and 2:5:6-*tri*iodo- (WHEELER and BRAUTLECHT), 1911, A., i, 27.

(*Toluene compounds, Me = 1.*)

- m*-Toluidine, 2:6-*di*iodo-, and its hydrochloride (WHEELER and BRAUTLECHT), 1910, A., i, 663.
- 5:6-*di*iodo-, 4:5:6-*tri*iodo-, and 2:4:5:6-*tetra*iodo- (WHEELER and HOFFMAN), 1911, A., i, 28.
- 2:6-*dinitro*- (MEISENHEIMER and PATZIG), 1906, A., i, 653.
- p*-Toluidine, preparation of, from mixed toluidines by means of *p*-toluidine hydrate (FRISWELL), 1908, A., i, 332.
- and its condensation product with acetaldehyde, absorption spectra of (PURVIS), 1910, T., 644; P., 56.
- latent heat of vaporisation of, and association of (KURBATOFF), 1909, A., ii, 132.
- freezing points of mixtures of, with the dihydric phenols (PHILIP and SMITH), 1905, T., 1735; P., 255.
- reactions of, with citraconic acid (FICHTER and TSCHUDIN), 1907, A., i, 81.
- reactions of, with crotonic acid (FICHTER and PREISWERK), 1907, A., i, 84.
- reaction of, with epichlorohydrin (COHN and FRIEDLÄNDER), 1904, A., i, 866.
- action of ethyl pyruvate on (SIMON), 1908, A., i, 687, 738.
- action of glyoxylic acid on (v. OSTROMISLENSKY), 1908, A., i, 889.
- compound of phenylazoimide and (WOLFF and KOLASIUS), 1912, A., i, 1028.
- and 3-bromo-, aldol bases from, and their derivatives (EDWARDS, GARROD, and JONES), 1912, T., 1380; P., 163.
- cobaltinitrite (HOFMANN and BUCHNER), 1908, A., i, 875; (CUNNINGHAM and PERKIN), 1909, T., 1566.
- picrates (SUIDA), 1908, A., i, 523.
- acetyl derivative. See Aceto-*p*-toluidide.
- diacetyl derivative, hydrochloride of (DEHN), 1912, A., i, 834.
- acetyltoluenesulphonyl derivative (REVERDIN and DE LUC), 1911, A., i, 38.
- N*-acyl derivatives (FICHTER and ROSENBERGER), 1907, A., i, 85.
- alkyl derivatives, behaviour of, in the organism (HILDEBRANDT), 1906, A., ii, 110.
- isosuccinic acid derivative of, antipyretic action of (MALERBA), 1906, A., ii, 693.



(*Toluene compounds, Me = 1.*)

*p*-**Toluidine**, monohydrate (WALKER and BEVERIDGE), 1907, T., 1797; P., 236.

colour reaction for (BIEHRINGER and BUSCH), 1903, A., ii, 192.

detection of small quantities of (HOLLEMAN), 1905, A., i, 272.

*p*-**Toluidine**, 3:5-dibromo-2-nitro- (BLANKSMA), 1909, A., i, 780.

3-chloro-5-bromo- (ORTON and REED), 1907, T., 1570; P., 212.

3-chloro-2-nitro- and 5-chloro-2-nitro- (BRAND and ZÖLLER), 1907, A., i, 756.

2-iodo- (BLANKSMA), 1909, A., i, 937. and its salts (WILLGERODT and GARTNER), 1908, A., i, 876.

3-iodo- and its hydrochloride, oxalate, and acetyl and benzoyl derivatives (WHEELER and LIDDLE), 1910, A., i, 17.

2:5-diiodo- (WHEELER and BRAUTLECHT), 1911, A., i, 28.

3:5-diiodo- and its acetyl derivative (WHEELER and LIDDLE), 1910, A., i, 18.

5-iodo-3-nitro- (WHEELER and SCHOLES), 1910, A., i, 663.

*trinitro*-, action of amines on derivatives of (SOMMER), 1903, A., i, 655.

**Toluidines**, xylenes, and nitrotoluenes, freezing mixtures of (FISCHER), 1910, A., i, 309.

action of dichloroacetic acid on (HELLER), 1904, A., i, 730.

dibenzoyl derivatives, transformation of, into the isomeric benzoylamino-methylbenzophenones (CHATTAWAY and LEWIS), 1904, T., 589; P., 60.

*o*- and *m*-**Toluidines**, absorption spectra of (PURVIS), 1910, T., 1551.

5- and 6-iodo-derivatives of (ARTMANN), 1905, A., i, 878.

*o*- and *p*-**Toluidines**, compounds of, with antimony trichloride (MAY), 1911, T., 1384; P., 125.

acetyl derivatives. See *Aceto-o*- and *-p*-toluidides.

benzoyl derivatives. See *Benzo-o*- and *-p*-toluidides.

calcium derivatives of (ERDMANN and VAN DER SMISSEN), 1908, A., ii, 588.

formyl derivatives, crystalline and liquid modifications of (ORLOFF), 1905, A., i, 643.

*N*-lauroyl derivatives (GUÉRIN), 1904, A., i, 136.

hydrochlorides, double salts with palladium bromides and chlorides (GUTBIER), 1905, A., i, 584.

(*Toluene compounds, Me = 1.*)

*o*- and *p*-**Toluidines**, imides from (ORLOFF), 1906, A., i, 420.

*o*- and *p*-**Toluidines**, nitro-, *N*-formyl derivatives of (ANILINFARBEN- & EXTRAKT-FABRIKEN VORM. GEIGY & Co.), 1903, A., i, 522.

*o*-, *m*-, and *p*-**Toluidines**, relative rates of oxidation of (BRADSHAW), 1906, A., i, 360.

action of dichloroacetic acid on (HELLER), 1908, A., i, 217.

diazoamino-compounds from (VIGNON and SIMONET), 1905, A., i, 397.

picrates of (VIGNON and ÉVIEUX), 1908, A., ii, 665.

hydrogen tartrates, rotatory power of (MINGUIN and WOHLGEMUTH), 1909, A., i, 11.

telluri-bromides and chlorides (GUTBIER, FLURY, and EWALD), 1912, A., i, 639.

**Toluidine series**, pharmacological and chemo-therapeutic studies in the (HILDEBRANDT), 1911, A., ii, 514.

**Toluidine-aniline oil** from Caucasian naphtha (OGLOBLIN), 1904, A., i, 729.

*p*-**Toluidine-2-methylsulphone** and its acetyl derivative (ZINCKE and ROLLHAÜSER), 1912, A., i, 551.

*p*-**Toluidine-2-methylsulphoxide** and its acetyl derivative (ZINCKE and ROLLHAÜSER), 1912, A., i, 551.

*o*-**Toluidine-5-sulphonic acid**, 3-chloro- (BADISCHE ANILIN- & SODA-FABRIK), 1910, A., i, 271.

*p*-**Toluidine-2-sulphonic acid**, acetyl derivative, and its derivatives (ZINCKE and ROLLHAÜSER), 1912, A., i, 549.

**Toluidinoacetic acid**, preparation of (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1907, A., i, 312.

**Toluidinoacetones**, *o*-, *m*-, and *p*- (RICHTARD), 1907, A., i, 755.

*p*-**Toluidinoacetonitrile** and its phenyl derivative (KNOEVENAGEL, SCHLEUSSNER, and KLUCKE), 1904, A., i, 939.

*ω*-*p*-**Toluidinoacetophenone**, derivatives of (BUSCH and HEFELE), 1911, A., i, 583.

*p*-**Toluidinoacetothioamide** (JOHNSON and BURNHAM), 1912, A., i, 305.

*p*-**Toluidinoacryl-*p*-toluidide** (WOHL and FREUND), 1907, A., i, 585.

4-*p*-**Toluidinoalizarin** 2-methyl ether (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1905, A., i, 709.

**Toluidinoaminobenzoic acid**. See 2-Methyldiphenyl-2'-carboxylic acid, 4:4'-diamino-.

(Toluene compounds, Me = 1.)

*o-p*-Toluidinoamyl-*p*-tolyleyanamide and its hydrobromide and hydrochloride (v. BRAUN), 1907, A., i, 961.

4 *p*-Toluidino-1-anthrapyrimidone (FARBENFABRIKEN VORM. F. BAYER & Co.), 1910, A., i, 445.

1-*p*-Toluidinoanthraquinone, *o*-nitro- (ULLMANN and FODOR), 1911, A., i, 468.

4-*p*-Toluidinoanthraquinone, 1-amino-, acetyl derivative (FARBENFABRIKEN VORM. F. BAYER & Co.), 1904, A., i, 434.

1-hydroxy- (*quinizarin-blue*), and 2-bromo-1-amino- (FRIEDLANDER and SCHICK), 1904, A., i, 679.

4-*p*-Toluidinoanthraquinone-2:1-acridone (ULLMANN and BILLIG), 1911, A., i, 491.

*p*-Toluidino-1-anthraquinone-2-carboxylic acid (BADISCHE ANILIN- & SODA-FABRIK), 1911, A., i, 980.

2-*p*-Toluidinobenzoic acid, 3:5-dinitro- (ZINCKE), 1910, A., i, 556.

4-*p*-Toluidinobenzoic acid, 3-amino- and 3-nitro- (DELETRA and ULLMANN), 1904, A., i, 271.

*β*-*o*-Toluidinobenzylacetacetic acid, ethyl ester (RUHEMANN and WATSON), 1904, T., i, 1177.

*p*-Toluidinobenzylacetophenone (MAYER), 1905, A., i, 214.

*β*-*m*- and -*p*-Toluidinobenzylacetylacetones (RUHEMANN and WATSON), 1904, T., i, 1174; P., 175.

*m*-Toluidinoisobutyronitrile, amino-, and its amide (BUCHERER and GROLEE), 1906, A., i, 350.

*α*-Toluidinoisobutyronitriles and their amides, *o*- and -*p*- (BUCHERER and GROLEE), 1906, A., i, 349.

*m*-Toluidinocarballylic acid (SCHROETER and STASSEN), 1905, A., i, 820.

4-*o*-Toluidinocoumarin (*benzoletron-otoluidide* (ANSCHÜTZ, ANSPACH, FRESSENIUS, and CLAUS), 1909, A., i, 662.

2-*o*- and -*p*-Toluidinodihydro-6-pyrimidones (JOHNSON, STOREY, and McCOLLUM), 1908, A., i, 837.

1-*p*-Toluidino-2:4-dihydroxyanthraquinone, 3-bromo- (FARBENFABRIKEN VORM. F. BAYER & Co.), 1904, A., i, 934.

1:5-*p*-Toluidinodimethylaminoanthraquinone (FARBENFABRIKEN VORM. F. BAYER & Co.), 1903, A., i, 499.

(Toluene compounds, Me = 1.)

4-*p*-Toluidino-4-dimethylaminoanthraquinonesulphonic acid (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1906, A., i, 968.

3-Toluidino-1:1-dimethyl- $\Delta^{35}$ -cyclohexadien-4-ol and its hydrochloride and acetyl derivative (HAAS), 1906, T., 196.

3-*p*-Toluidino-1:1-dimethyl- $\Delta^3$ -cyclohexen-5-one, *N*-acetyl derivative, and its semicarbazone (HAAS), 1906, T., 197.

7-*p*-Toluidino-3:6-dimethylphenoxazine and its derivatives (BÖRNSTEIN), 1910, A., i, 779.

*α*-*p*-Toluidinodiphenylacetic acid and its ethyl and methyl esters (KLINGER), 1912, A., i, 558.

*α*-*p*-Toluidinodiphenylaceto-*p*-toluidide (KLINGER), 1912, A., i, 557.

Toluidinodiphenylmethanes, *o*- and -*p*-, and their hydrochlorides (BUSCH and RINCK), 1905, A., i, 519.

*o*-Toluidinoformaldehydesulphoxylic acid, sodium salt (REINKING, DEHNEL, and LABHARDT), 1905, A., i, 261.

1-*o*-Toluidino-4-hydroxyanthraquinone and its acetate (GRANDMOUGIN), 1908, A., i, 808.

10(7)-*p*-Toluidino-1-hydroxynaphthacenequinone, 7(10)-chloro- (HARROP, NORRIS, and WEIZMANN), 1909, T., 285.

*p*-Toluidino- $\gamma$ -itaconic acid, ethyl ester (WISLICIENUS, BÖKLEN, and REUTHE), 1909, A., i, 10.

Toluidinomalononic acids, and nitroso-, ethyl esters (CURTISS), 1903, A., i, 754.

1-*p*-Toluidino-8-methoxyanthraquinone, 4-amino- (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1909, A., i, 243.

4-*p*-Toluidino-1-methylaminoanthraquinone (FARBENFABRIKEN VORM. F. BAYER & Co.), 1906, A., i, 293.

5-*p*-Toluidino-1-methylaminoanthraquinone (FARBENFABRIKEN VORM. F. BAYER & Co.), 1903, A., i, 564.

6-*p*-Toluidino-4-methylanthrapyridone (BADISCHE ANILIN- & SODA-FABRIK), 1909, A., i, 262.

4-Toluidino-1-methylanthraquinone (HELLER, GRÜNTAL, and RUHTENBERG), 1912, A., i, 359.

4-*p*-Toluidino-7-methylcoumarin (ANSCHÜTZ, WAGNER, and JUNKERSDORF), 1909, A., i, 664.

*p*-Toluidinomethyleneacetacetanilide (DAINS and BROWN), 1909, A., i, 781.

(Toluene compounds, Me = 1.)

- o*- and *m*-Toluidinomethyleneacetylacetone (DAINS and BROWN), 1909, A., i, 782.
- m*-Toluidinomethylenebenzyl cyanide (DAINS and BROWN), 1909, A., i, 782.
- p*-Toluidino-*d*-methylenecamphor, rotatory power of (POPE and READ), 1909, T., 177; P., 19.
- 4-*o*-Toluidinomethylene-1:3-diphenyl-5-pyrazolone (DAINS and BROWN), 1909, A., i, 782.
- m*-Toluidinomethylenemalonic acid, ethyl ester, *m*-toluidide of (DAINS and BROWN), 1909, A., i, 781.
- 4-*p*-Toluidinomethylene-1-phenyl-3-methyl-5-pyrazolone (DAINS and BROWN), 1909, A., i, 782.
- 1-*o*- and -*p*-Toluidino-3-methylthiazoles and their acetyl derivatives (HUGERSHOFF), 1903, A., i, 865.
- β-Toluidinonaphthalenesulphonic acids and their derivatives (BUCHERER and STOHMANN), 1904, A., i, 395.
- 7-*p*-Toluidino-α-naphthol-3-sulphonic acid (BUCHERER and SEYDE), 1907, A., i, 511.
- 8-*p*-Toluidino-α-naphthol-4-sulphonic acid (FARBENFABRIKEN VORM. F. BAYER & CO.), 1907, A., i, 914.
- 8-Toluidinonaphthylthiocarbamide, *o*- and *p*- (SACHS), 1909, A., i, 432.
- 2-*p*-Toluidino-3:5-dinitrobenzoic acid, *o*-nitro-, and its salts (CUTTITTA), 1906, A., i, 697.
- sodium and pyridine salts, crystallography of (RANFALDI), 1906, A., i, 664.
- 2-Toluidino-3:5-dinitrobenzoic acids, *o*-, *m*-, and *p*- (PURGOTTI and LUNINI), 1904, A., i, 315.
- Toluidinonitrobenzylsulphonic acids, *o*- and *p*- (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1904, A., i, 663.
- Toluidinoperimidine, 2-*o*- and 2-*p*- (SACHS), 1909, A., i, 432.
- β-*p*-Toluidino-γ-phenoxy-α-*p*-chlorophenylcrotonitrile (V. WALTHER and HERSCHEL), 1911, A., i, 238.
- 8-*p*-Toluidino-5-phenoxyquinizarin (FREY), 1912, A., i, 477.
- α-*o*-Toluidinophenylacetoneitrile and its amide (BUCHERER and GROLEE), 1906, A., i, 349.
- 5-*p*-Toluidino-1-phenyl-3-methylpyrazole, 4-amino-, and its derivatives (MICHAELIS and RISSE), 1911, A., i, 1039.
- 4-*p*-Toluidinophenylpyridazoneanthrone (ULLMANN), 1912, A., i, 1028.

(Toluene compounds, Me = 1.)

- 3-Toluidino-1-phenyl-4-*p*-tolyl-4:5-dihydro-1:2:4-triazole (BUSCH and MEHRTENS), 1906, A., i, 118.
- 5-Toluidino-2-phenyl-1-*o*- and -*p*-tolyl-1:2:4-triazoles, *o*- and *p*- (BUSCH), 1907, A., i, 260.
- p*-Toluidino-1-phenyl-1:2:4-triazole, 3:5- (or 5:3-) amino-, and its acetyl derivative (FROMM and WELLER), 1908, A., i, 702.
- 4-*p*-Toluidinopyridazonanthrone (ULLMANN and MINAJEFF), 1912, A., i, 383.
- 2-Toluidinopyrimidines, *o*- and *p*-, 6-chloro- and 6-amino- of the *o*-compound (JOHNSON, STOREY, and MCCOLLUM), 1908, A., i, 838.
- o*-, *m*-, and *p*-Toluidinosuccinotolylimides and nitroso- (WARREN and GROSE), 1912, A., i, 961.
- o*- and *p*-Toluidinotartronic acid, ethyl esters (CURTISS, HILL, and LEWIS), 1911, A., i, 367.
- p*-Toluidino-*m*- and -*p*-tolyliminoall-oxanic acids (KÜHLING and KASELITZ), 1906, A., i, 464.
- 3-*p*-Toluidino-5-*p*-tolylimino-1:1-dimethyl-Δ<sup>3</sup>-cyclohexene and its additive salts and benzoyl derivative (HAAS), 1906, T., 199.
- 7-*p*-Toluidino-10-*p*-tolyl-1-methylsafranil (HELLER), 1912, A., i, 917.
- 7-*o*-Toluidino-10-*o*-tolylsafranil (HELLER), 1912, A., i, 917.
- 3-*o*-Toluidino-4-*o*-tolyl-1:2:4-triazol-5-one (BUSCH and BLUME), 1907, A., i, 261.
- o*-Toluumino-methyl and -ethyl ethers (LANDER and JEWSON), 1903, T., 769; P., 160.
- 9-Tolunaphthazine. See 9-Methyl-αβ-naphthaphenazine.
- o*-, *m*-, and *p*-Tolunobornylamides (FRANKLAND and BARROW), 1909, T., 2040; P., 263.
- Toluoins, *o*-, *m*-, and *p*- (EKECRANTZ and AHLQVIST), 1908, A., i, 993.
- p*-Tolucinhydrazine (CURTISS and KASTNER), 1911, A., i, 325.
- p*-Toluoitrile, reduction of (FRÉBAULT), 1905, A., i, 437.
- p*-Toluoitrile, 3-amino-, acyl derivatives of, and 3-nitro- (BOGERT and HOFFMAN), 1905, A., i, 391.
- ω-chloro-, and its compound with pyridine (BADISCHE ANILIN- & SODA-FABRIK), 1912, A., i, 355.
- o*-Toluosulphonoquinone, 5-bromo- (ZINCKE and KEMPF), 1912, A., i, 287.
- p*-Toluoyl chloride, ω-dichloro- (WEGSCHEIDER and SUDA), 1912, A., i, 976.



(Toluene compounds,  $Me = 1$ .)

- p*-Toluylacetic acid and its ethyl ester (MARGUERY), 1905, A., i, 527.
- p*-Toluylazo-benzene and *p*-bromobenzene (PONZIO and CHARRIER), 1909, A., i, 443.
- p*-Toluylbenzamide (WHEELER, JOHNSON, and MCFARLAND), 1903, A., i, 859.
- Toluyl-*o*-benzoic acid, *o*-chloro- (GESELLSCHAFT FÜR CHEMISCHE INDUSTRIE IN BASEL), 1909, A., i, 941.
- o*- and *p*-chloro- (HELLER and SCHÜLKE), 1908, A., i, 994.
- 3:6-dichloro-3'(or 2'-)-hydroxy-, and 3:6-dichloro-5'(or 6'-)-hydroxy-, its sodium salt and bromo-derivative (WALSH and WEIZMANN), 1910, T., 689.
- m*-Toluyl-*o*-benzoic acid, *p*-bromo- (HELLER, GRÜNTAL, and RUHTENBERG), 1912, A., i, 358.
- 4(5):2'-dihydroxy- (BENTLEY, GARDNER, and WEIZMANN), 1907, T., 1639.
- p*-Toluyl-*o*-benzoic acid, isomeric methyl esters (MEYER), 1905, A., i, 134.
- p*-Toluyl-*o*-benzoic acid, 3(6)- and 4(5)-amino-, and 3(6)- and 4(5)-chloro- (BADISCHE ANILIN- & SODA-FABRIK), 1911, A., i, 885.
- 4(5):2'-dihydroxy- (BENTLEY, GARDNER, and WEIZMANN), 1907, T., 1638.
- trinitro- and triamino- (BADISCHE ANILIN- & SODA-FABRIK), 1909, A., i, 243.
- Toluyl-*o*-benzoic acids, *m*- and *p*-, 2'-hydroxy- (BENTLEY, GARDNER, and WEIZMANN), 1907, T., 1635.
- o*-Toluylbenzoylbenzene (GUYOT and VALLETTE), 1911, A., i, 652.
- Toluylboric acid, *tri-o*-, *m*-, and *p*-hydroxy- (COHN), 1911, A., i, 641.
- $\alpha$ -*p*-Toluyl- $\beta$ -*p*-bromophenylhydrazine,  $\beta$ -nitroso- (GIOVETTI), 1909, A., i, 739.
- $\beta$ -*p*-Toluyl- $\alpha$ -*p*-bromophenylhydrazine (PONZIO and CHARRIER), 1909, A., i, 443.
- 2'-Toluyl-diphenylsulphide, 2:4-dinitro- (MAYER), 1910, A., i, 262.
- 4-*p*-Toluylfluorenone and its phenylhydrazine (PICK), 1905, A., i, 68.
- Toluylformic acid. See Tolyglyoxylic acid.
- Toluylhydrazides, *o*-, *m*-, and *p*-, and their *N*-benzylidene and -hydroxybenzylidene derivatives (STOLLÉ and STEVENS), 1904, A., i, 626.
- p*-Toluyl-*o*-hydrazotoluene and its benzoyl derivative (FREUNDLER), 1904, A., i, 34.

(Toluene compounds,  $Me = 1$ .)

- o*-Toluyl-naphthoylbenzene (GUYOT and VALLETTE), 1911, A., i, 654.
- $\alpha$ -*p*-Toluyl- $\beta$ -phenylhydrazine,  $\alpha$ -nitro- $\beta$ -nitroso- and  $\beta$ -nitroso- (PONZIO and CHARRIER), 1908, A., i, 582.
- 3-*p*-Toluylpicolinic acid, preparation of (HALLA), 1911, A., i, 1021.
- p*-Toluyltartaric acid, nitro-, ethyl ester, preparation and rotation of (FRANKLAND, HEATHCOTE, and GREEN), 1903, T., 168.
- p*-Toluyl-*p*-tolylazomethylene. See Azo-*p*-tolil.
- p*-Toluyl-*p*-tolylhydrazimethylene. See Hydrazim-*p*-tolil.
- $\alpha$ -*p*-Toluyl- $\beta$ -*p*-tolylhydrazine, and  $\beta$ -nitroso- (GIOVETTI), 1909, A., i, 738.
- p*-Tolupropionitrile,  $\alpha$ -isonitroso- $\beta$ -nitrosoimino-, salts of (LUBLIN), 1907, A., i, 213.
- Toluquinol, tetrabromo-, and its acetyl derivative and anilide (ZINCKE and KLOSTERMANN), 1907, A., i, 323.
- 5-bromo-3-amino-, and its acetyl derivatives and *mono*- and *di*-bromonitro- (ZINCKE and EMMERICH), 1905, A., i, 880.
- o*-chloro- (RAIFORD), 1911, A., i, 994.
- tetrachloro-, and its derivatives (ZINCKE and PFAFFENDORF), 1912, A., i, 964.
- dichlorohydroxy- (ZINCKE, SCHNEIDER, and EMMERICH), 1903, A., i, 760.
- chloronitro-, and its diacetate (ZINCKE, SCHNEIDER, and EMMERICH), 1903, A., i, 759.
- Tolu- $\psi$ -quinol,  $\omega$ :2:3:5:6-pentachloro-, and its acetyl derivative (ZINCKE and BÖTTCHER), 1906, A., i, 739.
- $\omega$ -chloro-2:3:5:6-tetrabromo-, and its acetyl derivative and anilide (ZINCKE and BÖTTCHER), 1906, A., i, 168.
- 3:6-dichloro-3-bromo-2-hydroxy- (ZINCKE and BUFF), 1905, A., i, 881.
- 2:3:5:6-tetrachloro- $\omega$ -cyano-, and its acetyl derivative (ZINCKE and BÖTTCHER), 1906, A., i, 739.
- Toluquinolbenzein (2:7-dihydroxy-3:6-dimethyl-9-phenylxanthen-9-ol) and its derivatives (KEHRMANN and SILZER), 1910, A., i, 408.
- Toluquinoldiphenylacetic acid,  $\beta$ -lactone of (STAUDINGER and BEREZA), 1911, A., i, 461.
- Toluquinolphthalein and its derivatives (KEHRMANN and SILZER), 1910, A., i, 407.

(*Toluene compounds, Me = 1.*)

**Toluquinone**, action of magnesium methyl iodide on (BAMBERGER and BLANGEY), 1911, A., i, 883.

bromonitro-derivatives (ZINCKE and EMMERICH), 1905, A., i, 879.

**Toluquinone**, 2:6-dibromo-4-chloro-imino-, *o*-chloro-, 2- and 4-chloro-6-chloroimino-, and 4-chloro-3-chloro-imino- (RAIFORD), 1911, A., i, 993.

4-chloro-3-hydroxy- (HENRICH, TAUBERT, and BIRKNER), 1912, A., i, 184.

dichlorohydroxy- (ZINCKE, SCHNEIDER, and EMMERICH), 1903, A., i, 760.

**3:4-Toluquinone** and its reactions with substituted hydrazines (McPHERSON and BOORD), 1911, A., i, 818.

**2:3- and 3:4-Toluquinones** (*homo-o-benzoquinone*) and their bimolecular forms (WILLSTÄTTER and MÜLLER), 1911, A., i, 728.

*p*-**Toluquinonedichlorodi-imide** (ORLOFF), 1911, A., i, 89.

**Toluquinonedioxime**, benzoyl derivatives of (OLIVERI-TORTORICI), 1903, A., i, 838.

**Toluquinonediphenylsemicarbazone** (BORSCHÉ and ZELLER), 1904, A., i, 1058.

**Toluquinoneimide** hydrochloride (SCHMIDT and SAAGER), 1904, A., i, 512.

*o*-**Toluquinoneimide**, amino-, nitrate (PICCARD), 1910, A., i, 66.

**Toluquinoneimides**, *o*- and *m*-, amino-, salts of (KEHRMANN and PRAGER), 1909, A., i, 967.

**Toluquinone-2-oxime-5-*o*-mono- and -5-*op*-di-nitrophenylhydrazones** (BORSCHÉ), 1908, A., i, 67.

**2-Toluquinoneoxime-5- and -6-semicarbazones** (BORSCHÉ and RECLAIRE), 1907, A., i, 988.

**Toluresazine** (HEIDUSCHKA and SCHELLER), 1910, A., i, 397.

**Tolusafranine**, acetyl derivative of (ORLOFF), 1911, A., i, 89.

*as*-**Tolusafranine** (BARBIER and SISLEY), 1907, A., i, 161.

*s*-**Tolusafranine** (BARBIER and SISLEY), 1907, A., i, 160.

**Tolaposafranine** and its hydrochloride (BARBIER and SISLEY), 1907, A., i, 564.

**Tolusafraninones**, alkylated, preparation of (FARBWERKE VORM. MEISTER, LUCIUS & BRÜNING), 1908, A., i, 225.

(*Toluene compounds, Me = 1.*)

**Tolyl benzyl ethers**, substituted (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1903, A., i, 818.

chlorocarbonates, reactions of, with thioureas (DIXON and TAYLOR), 1907, T., 921; P., 120.

ethyl and ethylene ethers, bromo-derivatives of (STOERMER and GÖHL), 1903, A., i, 848.

iododichloride, *o*-amino-, *N*-acetyl derivative, and the iodoso-compound (WILLGERODT and HEUSNER), 1907, A., i, 1026.

*p*-iodofluoride (WEINLAND and STILLE), 1903, A., i, 748.

*o*-**Tolyl  $\beta$ -bromoethyl ether** (GATTERMANN), 1908, A., i, 32.

camphor- $\beta$ -sulphonate, and hydrogen camphorate, and rotatory powers of (HILDITCH), 1909, T., 338.

dichloro-orthophosphate,  $\omega$ -trichloro-4:6-dibromo- (ANSCHÜTZ and ROBITSEK), 1906, A., i, 503.

4-chloro- $\omega$ -trichloro- (ANSCHÜTZ and ANSPACH), 1906, A., i, 503.

$\omega$ -trichloro-4:6-diiodo- (ANSCHÜTZ, ROBITSEK, and SCHMITZ), 1906, A., i, 504.

ether, bromo-, dibromo-, chloro-, and dichloro- (MAILHE and MURAT), 1912, A., i, 254, 348.

mercaptan, 4-amino-, and its derivatives (ZINCKE and ROLLHAÜSER), 1912, A., i, 550.

4-iodo- (ZINCKE and ROLLHAÜSER), 1912, A., i, 551.

methyl ether, *p*-nitro-, action of caustic alkalis and air on (GREEN, DAVIES, and HORSFALL), 1907, T., 2080.

orthophosphate, 4:6-dichloro- $\omega$ -dichloro- (ANSCHÜTZ and MEHRING), 1906, A., i, 501.

trimethylene ether, and its di-4:4'-aldehyde (GATTERMANN), 1908, A., i, 34.

*m*-**Tolyl benzyl ether**, triiodo- (AUWERS), 1907, A., i, 1034.

ether and its diamino-, di- and tetrabromo-, and dinitro-derivatives (COOK), 1907, A., i, 126.

di- and tetrabromo- (COOK), 1910, A., i, 731.

ethylene ether (GATTERMANN), 1908, A., i, 34.

glycerol ether, 5-chloro- (EHLÖTZKY), 1909, A., i, 786.

glycide ether (MARLE), 1912, T., 307.

(*Toluene compounds, Me = 1.*)

- m*-Tolyl mercaptan, 2:4-diamino-, and its hydrochloride (SCHULTZ and BEYSLAG), 1909, A., i, 269.  
methyl ether, action of nitric acid on (HENRICH and NACHTIGALL), 1903, A., i, 414.  
and an oxidation product of its amino-derivative (HENRICH and ROTERS), 1909, A., i, 57.  
amino-, an oxidation product of (HENRICH and SCHIERENBERG), 1905, A., i, 93.  
2-amino- and 2- and 6-nitro-5-hydroxy- (HENRICH and NACHTIGALL), 1903, A., i, 414.  
*p*-bromo- (PSCHORR and KOCH), 1912, A., i, 767.  
4-nitro-, and 4-amino-, and its acetyl derivative (KHOTINSKY and JACOPSON-JACOPMANN), 1909, A., i, 805.  
2:4:6-trinitro- (BLANKSMA), 1903, A., i, 164.  
*p*-Tolyl acetate, *o*-amino-, benzoyl derivative (AUWERS and EISENLOHR), 1909, A., i, 916.  
benzoate, *o*-amino-, and its derivatives (AUWERS and EISENLOHR), 1909, A., i, 916.  
*o*-nitro-, and its reduction (AUWERS), 1908, A., i, 477.  
carbonate, tetrabromo-, and 3:5-dichloro-2:6-dibromo-, and its reactions (ZINCKE and SUHL), 1907, A., i, 37.  
*o*-nitro- (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1909, A., i, 299.  
chlorothioliacetate (AUWERS and ARNDT), 1909, A., i, 176.  
benzyl selenide (TABOURY), 1906, A., i, 834.  
*o*-amino-*m*-tolyl sulphide and its salts and acyl and aldehydic derivatives (v. MEYER and E. MEYER), 1903, A., i, 809.  
*m*-amino-*o*-tolyl sulphide and its salts (v. MEYER and E. MEYER), 1903, A., i, 810.  
trichloromethylsulphide, and 2-bromo- (ZINCKE and FROHNEBERG), 1910, A., i, 315.  
ether, bromo-, dibromo-, chloro-, and dichloro- (MAILHE and MURAT), 1912, A., i, 254.  
tetrabromo- (COOK), 1911, A., i, 284.  
ethyl ether, action of sulphuric acid on (ROBERTS and ALLEMAN), 1911, A., i, 369.

(*Toluene compounds, Me = 1.*)

- p*-Tolyl ethyl ether, bromo- and 3-mono- and 3:5-di-chloro- (AUTENRIETH and MÜHLINGHAUS), 1907, A., i, 32.  
2:5-dihydroxy- (JACOBSON and JANKOWSKI), 1909, A., i, 853.  
glycide ether (COHN and PLOHN), 1907, A., i, 605; (LES ÉTABLISSEMENTS POULENC FRÈRES and FOURNEAU), 1911, A., i, 291.  
iodoxyfluoride hydrofluoride (WEINLAND and REISCHLE), 1909, A., ii, 37.  
mercaptan sulphate, 2-amino- (FICHTER and BERNOULLI), 1910, A., i, 21.  
2-bromo- (ZINCKE and FROHNEBERG), 1910, A., i, 315.  
methyl ether, *o*-amino-, acetyl derivative (KALLE & Co.), 1911, A., i, 666.  
2-chloro- (ULLMANN and WAGNER), 1907, A., i, 848.  
6-chloro-3-amino-, and its acetyl derivative and 3:6-dichloro- (DE VRIES), 1910, A., i, 29.  
*o*- and *m*-iodo- and iodoso-derivatives of (WILLGERODT and SCHLOSS), 1911, A., i, 715.  
3-nitro-, reduction of (DE VRIES), 1910, A., i, 29.  
 $\omega$ -dinitro-, diazobenzene derivative (PONZIO and CHARRIER), 1908, A., i, 582.  
methyl sulphide (AUWERS and ARNDT), 1909, A., i, 175.  
dibromide and sulphoxide, 2-bromo-, sulphide, sulphide dibromide, sulphoxide and sulphone, 2:5-dibromo-, sulphide, sulphide dibromide, and sulphoxide (ZINCKE and FROHNEBERG), 1910, A., i, 315.  
orthoformate (AUWERS and HESSENLAND), 1907, A., i, 400.  
propionate, *o*-amino-, acetyl derivative (AUWERS and EISENLOHR), 1909, A., i, 916.  
disulphide, 2-amino- and its sulphate and acetyl derivative (FICHTER and BERNOULLI), 1910, A., i, 21.  
trisulphide (HOLMBERG), 1910, A., i, 165.  
*o*- and *p*-Tolyl alkyl carbonates, amino-, bromoamino-, bromonitro-, and nitro-derivatives and their salts (UPSON), 1904, A., i, 734.  
disulphides (WEIGERT), 1903, A., i, 418.



(*Toluene compounds, Me = 1.*)

- o*-, *m*-, and *p*-Tolyl antimonites (MACKEY), 1909, T., 608; P., 98.  
 arsenites (LANG, MACKEY, and GORTNER), 1908, T., 1370.  
 glycerol ethers (SCHIVKOVITCH), 1908, A., i, 978.  
 methyl ethers, dielectric constants of, dissolved in benzene and *m*-xylene (PHILIP and HAYNES), 1905, T., 1002; P., 200.  
*o*-Tolylacetaldehyde and its oxime and thiosemicarbazone (KRONIK), 1911, A., i, 210.  
*p*-Tolylacetaldehyde and its derivatives (KLING), 1908, A., i, 188.  
*p*-Tolylacetoacetic acid,  $\alpha$ -hydroxy-, methyl ester (GUYOT and BADONNEL), 1909, A., i, 305.  
*p*-Tolylacetoneazine, isonitroso- (PONZIO and GIOVETTI), 1908, A., i, 835.  
*p*-Tolylacetone semicarbazone (AUWERS), 1906, A., i, 963.  
 Tolylacetones, *o*-, *m*-, and *p*-, and their oximes and semicarbazones (TIFFENEAU), 1907, A., i, 305.  
*m*-Tolylacetoneitrile, *p*-amino-, and its salts, *p*-hydroxy-, and *p*-nitro- (BARGER and EWINS), 1910, T., 2256.  
 Tolylacetoneitriles, *o*-, *m*-, and *p*-, preparation of, and formation of methyl derivatives of 1:3-naphthylenediamine from (ATKINSON and THORPE), 1907, T., 1099; P., 216.  
 formation of methyl derivatives of 2-phenyl-1:3-naphthylenediamine from (BEST and THORPE), 1909, T., 261; P., 28.  
*d*-*p*-Tolylacetylalanine (DAKIN), 1911, A., ii, 416.  
*p*-Tolylacetylaminosulphoxide (v. MEYER and HEIDUSCHKA), 1903, A., i, 809.  
*p*-Tolylacraldehyde and its oxime, phenylhydrazone, and semicarbazone (SCHOLTZ and WIEDEMANN), 1903, A., i, 437.  
 5-Tolylacridines, *o*-, *m*-, and *p*-, and their additive derivatives (SCHMID and DECKER), 1906, A., i, 305.  
*p*-Tolylacrylic acid (SCHROETER), 1904, A., i, 415.  
 and its ethyl ester and bromo-derivatives and *m*-nitro- (GATTERMANN), 1906, A., i, 589.  
*p*-Tolylacrylic acid,  $\alpha$ -amino-, benzoyl derivative (DAKIN), 1911, A., ii, 416.  
 $\omega$ -amino-, and its derivatives (EINHORN and GÖTTLER), 1910, A., i, 111.

(*Toluene compounds, Me = 1.*)

- $\alpha$ -*p*-Tolylacrylic acid,  $\beta$ -chloro-, and its ethyl ester (AUWERS), 1911, A., i, 299.  
*p*-Tolylalanine and its hydrochloride (DAKIN), 1911, A., ii, 416.  
*p*-Tolyl *p*-aldehydostyryl ketone and its phenylhydrazone (v. LENDENFELD), 1907, A., i, 222.  
*s*-*p*-Tolylallylthiocarbamide (YOUNG and CROOKES), 1906, T., 71.  
 Tolylamino-. See Toluidino-.  
 1-*p*-Tolyl-1:2-4-triaminonaphthalene (MORGAN and MICKLETHWAIT), 1912, P., 325.  
 Tolylammonium salts, isomerism of asymmetric (WEDERIND and OBERHEIDE), 1904, A., i, 732, 992.  
 $\alpha$ -, *m*-, and *p*-Tolylammonium osmium chlorides (GUTHRIE and WALBINGER), 1911, A., i, 191.  
 platinum bromides (GUTHRIE, BAURIEDL, and OBERMAIER), 1911, A., ii, 33.  
 $\beta$ -*p*-Tolyl- $\Delta$ - $\alpha$ -amylene (GRISHKEWITSCH-TROCHIMOWSKY), 1911, A., i, 291.  
*s*-*p*-Tolylisomamylloxymethylthiocarbamide (JOHNSON and GUEST), 1909, A., i, 371.  
*N*-*m*- and *p*-Tolylanisaldoximes and their hydrogen tri-iodides (BECKMANN, EBERT, NETSCHER, and SCHULZ), 1909, A., i, 653.  
 Tolylanisylacetic acid, *p*-hydroxy-, lactone of (STOERMER and DECKER), 1911, A., i, 666.  
 Tolylanthranilic acids, *o*- and *p*-, preparation of (FARBWERKE FORM. MEISTER, LUCIUS, & BRÜNING), 1904, A., i, 159.  
 $\alpha$ -, *m*-, and *p*- (ULLMANN and BADER), 1907, A., i, 843.  
 Tolylanthraquinone, 2-chloro-5- and 2-chloro-8-amino- (BADISCHE ANILIN- & SODA-FABRIK), 1909, A., i, 940.  
*p*-Tolyl-2-anthraquinonylcarbamide (FARBWERKE FORM. MEISTER, LUCIUS, & BRÜNING), 1912, A., i, 119.  
 2-*m*-Tolylanthroxan, 4-chloro-*p*-hydroxy-, and its alkali salts and acetyl derivative (ZINCKE and SIEMER), 1906, A., i, 516.  
*p*-Tolylanthroxan (KLIEGL), 1908, A., i, 550.  
 $\alpha$ -Tolyl arabinoside (RYAN and EHRILL), 1904, A., i, 223.  
 Toly-5-arsenious oxide, 2-amino- (FARBWERKE FORM. MEISTER, LUCIUS, & BRÜNING), 1910, A., i, 84.  
 $\alpha$ -Tolylarsinic acid, 4-hydroxy- (FARBWERKE FORM. MEISTER, LUCIUS, & BRÜNING), 1909, A., i, 280.

(Toluene compounds, Me = 1.)

- m*-Tolylarsinic acid, 4-amino- (BENDA), 1910, A., i, 148.  
 6-amino-, and its sodium salt and its *N*-acetyl derivative (PYMAN and REYNOLDS), 1908, T., 1181; P., 143; (O. and R. ADLER), 1908, A., i, 592.  
 6-hydroxy-, sodium salt (BARROW-CLIFF, PYMAN, and REMFRY), 1908, T., 1896.  
 5-nitro-6-hydroxy- (BENDA and BERTHEIM), 1912, A., i, 63.  
*p*-Tolylarsinic acid, 2-chloro-, and 2-chloro-6-nitro- (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1912, A., i, 595.  
 Tolylarsinic acids, amino-, and their acetyl derivatives (BENDA and KAHN), 1908, A., i, 592.  
 oxidation of (KAHN and BENDA), 1909, A., i, 75.  
 2- and 3-Tolylarsinic acids, 4-amino-, and sodium salt of the latter (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1910, A., i, 531.  
*p*-Tolylauramine, 2-amino- (GRANDMOUGIN and LANG), 1909, A., i, 974.  
 Tolylaziminobenzoic acids, 3:4-*o*- and -*p*- (DELETRA and ULLMANN), 1904, A., i, 270.  
*p*-Tolylaziminonaphthalene and its picrate (ULLMANN, DELETRA, and KOGAN), 1904, A., i, 776.  
*p*-Tolylazoacetoacetic acid, menthyl ester (LAPWORTH), 1903, T., 1121; P., 149.  
 Tolylazoacetoacetic acids, *o*- and -*p*-, ethyl esters, and their benzoylhydrazones (BÜLOW and SCHAUB), 1908, A., i, 705.  
*p*-Tolylazocycanoacetic acid, menthyl ester, rotation of (BOWACK and LAPWORTH), 1903, P., 23; 1904, T., 44.  
*o*-Tolylazoformaldoxime (BUSCH and WOLBRING), 1905, A., i, 494.  
 Tolyl-5-azoformamide, 2-amino- (BORSCHKE and RECLAIRE), 1907, A., i, 988.  
 Tolyl-5- and -6-azoformanilides, 2- and 3-amino- (BORSCHKE and RECLAIRE), 1907, A., i, 989.  
*p*-Tolylazoimide (DIMROTH and PFISTER), 1910, A., i, 904.  
*p*-Tolylazothioliacetic acid and its sodium salt (FRIEDLÄNDER and CHWALA), 1907, A., i, 526.  
 Tolylazo-. See also Tolueneazo-.  
*N*-*p*-Tolylbenzaldoxime hydrogen penta-iodide (?) (BECKMANN, EBERT, NETSCHER, and SCHULZ), 1909, A., i, 654.

(Toluene compounds, Me = 1.)

- o*-Tolylbenzenylamidine, benzoyl derivatives (WHEELER, JOHNSON, and MCFARLAND), 1903, A., i, 859.  
 1-*p*-Tolyl-1:2:3-benzotriazole (BORSCHKE and FEISE), 1907, A., i, 243.  
*p*-Tolylbenzoylalanine (DAKIN), 1911, A., ii, 416.  
 $\beta$ -*p*-Tolylbenzylhydrazine and its hydrochloride and benzoyl derivative (SCHLENK), 1908, A., i, 738.  
 1-*o*- and -*p*-Tolyl-4-benzylidenehydantoin and 2-thio- (JOHNSON, PFAU, and HODGE), 1912, A., i, 807.  
*o*-Tolylbenzylidenehydrazine, 5-iodo- (FICHTER and PHILIPP), 1907, A., i, 83.  
*p*-Tolylbenzylidenehydrazine (SCHLENK), 1908, A., i, 738.  
*p*-Tolylbenzylmethylallylammonium iodide and hydrogen tartrate, resolution of (EVERATT and JONES), 1908, T., 1790; P., 212.  
*p*-Tolylbenzyl-methyl- and -ethyl-allylammonium salts (WEDEKIND and OBERHEIDE), 1904, A., i, 733.  
*p*-Tolylbenzylphthalamide (TINGLE and BRENTON), 1909, A., i, 799.  
*p*-Tolylbenzylsulphone (v. MEYER), 1910, A., i, 316.  
*p*-Tolyl- $\psi$ -benzylthiocarbamide, cyano- (FROMM and WELLER), 1908, A., i, 703.  
 Tolylbisdinaphthaxanthen, *m*-amino- (ROBYN), 1905, A., i, 608.  
*m*-Tolylboric acid (KHOTINSKY and MELAMED), 1909, A., i, 864.  
*p*-Tolyl- $\omega$ -bromoamyleyanamide (v. BRAUN), 1907, A., i, 961.  
 $\beta$ -*p*-Tolylbutaldehyde and its derivatives (BLAISE and PICARD), 1912, A., i, 233.  
 $\beta$ -*m*-Tolyl- $\Delta\beta$ -butenoic acid,  $\gamma$ -cyano- (GUARESCHI), 1907, A., i, 1004.  
*o*-Tolyl-*tert*-.butyl alcohol (CARRÉ), 1909, A., i, 544.  
*m*-Tolyl-*tert*-.butyl alcohol and its acetyl derivative (CARRÉ), 1909, A., i, 544.  
 $\alpha$ -*m*-Tolyl- $\Delta\alpha$ -butylene and its dibromide (GRISHKEWITSCH-TROCHIMOWSKY), 1908, A., i, 799.  
 $\beta$ -*p*-Tolyl- $\Delta\alpha$ -butylene (GRISHKEWITSCH-TROCHIMOWSKY), 1911, A., i, 291.  
 $\beta$ -*p*-Tolyl- $\Delta\beta$ -butylene (RUPE and BÜRGIN), 1911, A., i, 447.  
*p*-Tolyl butyl ketone and its oxime and semicarbazone (LAYRAUD), 1906, A., i, 433.  
*p*-Tolyl *iso*butyl ketone,  $\alpha$ -bromo- (KUNCKELL and STAHEL), 1904, A., i, 387.

(*Toluene compounds, Me = 1.*)

*p*-Tolyl butyl and *isobutyl ketones* (WILLGERODT and HAMBRECHT), 1910, A., i, 118.

*o*-, *m*-, and *p*-Tolyl *isobutyl ketones* and their semicarbazones (SENDERENS), 1911, A., i, 135.

$\gamma$  Tolylbutyric acids, *o*-, *m*-, and *p*-,  $\beta$ -imino- $\alpha$ -cyano-, ethyl esters, and the action of cold concentrated sulphuric acid on (ATKINSON and THORPE), 1907, T., 1699; P., 216.

*p*-Tolyl-butyric and *isobutyric acids* and their amides (WILLGERODT and HAMBRECHT), 1910, A., i, 118.

Tolylecamphoformeneamine, *o*-nitro- (TINGLE and HOFFMAN), 1905, A., i, 800.

*p*-Tolylecamphoformeneamine and its acetyl derivative and carboxylic acid and its *p*-toluidine salt (TINGLE and HOFFMAN), 1905, A., i, 799.

*m*-Tolylecamphoformeneaminocarboxylic acid and its *m*-toluidine salt (TINGLE and HOFFMAN), 1905, A., i, 799.

*p*-Tolylecamphoramic acids  $\alpha$ - and  $\beta$ -*cis*- and *-trans*- and imides of (ABATI and DE NOTARIS), 1909, A., i, 783.

Tolylecarbamic acids, *o*- and *p*-, calcium salts (ERDMANN and VAN DER SMISSEN), 1908, A., ii, 588.

Tolylecarbamic hydrazides, *o*- and *p*-, and their hydrochlorides and acetone, acetophenone, and *o*-hydroxybenzylidene compounds (BORSCHKE), 1905, A., i, 306.

*p*-Tolylecarbamide, 2-iodo-, and its *N*-nitroso-derivative (WILLGERODT and GARTNER), 1908, A., i, 876.

3-iodo- (WHEELER and LIDDLE), 1910, A., i, 17.

Tolylecarbamides, introduction of iodine into (ARTMANN), 1905, A., i, 878.

action of nitrous acid on (HAAGER and DOHT), 1906, A., i, 577.

*m*-Tolylecarbimide (HAAGER and DOHT), 1906, A., i, 577.

*o*-Tolylecarbinol, preparation of (TIFFENEAU and DELANGE), 1904, A., i, 48.

alkyl ethers of (FARBENFABRIKEN VORM. F. BAYER & Co.), 1905, A., i, 128.

3-*m*-Tolylisocarbostyryl, 2-amino- (LIECK), 1906, A., i, 49.

*o*-Tolyl chlorobromomethyl ketone, 5-amino-, and its acetyl derivative (KUNCKELL and BLUMENREUTER), 1912, A., i, 269.

(*Toluene compounds, Me = 1.*)

*m*-Tolyl chlorobromomethyl ketone, 6-amino-, and its acetyl derivative (KUNCKELL and BLUMENREUTER), 1912, A., i, 269.

*p*-Tolyl chlorobromomethyl ketone, 3-amino-, acetyl derivative (KUNCKELL), 1911, A., i, 991.

*m*-Tolylidichloroethyliodonium hydroxide and salts (WILLGERODT and UMBACH), 1903, A., i, 745.

*p*-Tolyltrichloromethylcarbinol and its acetate and benzoate (DINESMANN), 1905, A., i, 645.

*o*-Tolyl chloromethyl ketone, 4(or 6)-bromo-3-amino-, and its acetyl derivative (KUNCKELL and BLUMENREUTER), 1912, A., i, 269.

5-chloro- (KUNCKELL), 1908, A., i, 729.

*m*-Tolyl chloromethyl ketone, 2-amino-, acetyl derivative (KUNCKELL and BLUMENREUTER), 1912, A., i, 269.

5-amino-, acetyl derivative (KUNCKELL), 1911, A., i, 991.

4-chloro-6-amino-, and its acetyl derivative (KUNCKELL and LILLIG), 1912, A., i, 1027.

6-hydroxy-, and its acetate (FRIES and FINCK), 1909, A., i, 42.

*p*-Tolyl chloromethyl ketone, 3-amino-, acetyl derivative (KUNCKELL), 1911, A., i, 991.

*o*-Tolyl-1:3-dichlorophenyliodonium hydroxide and its salts (WILLGERODT and BÖLLERT), 1910, A., i, 828.

$\alpha$ -*o*-Tolylecinnamic acid, 2-amino- and 2-nitro- (PSCHORR and HOFMANN), 1906, A., i, 849.

$\alpha$ -*p*-Tolylecinnamic acid, 2-amino- and 2-nitro- (PSCHORR and QUADE), 1906, A., i, 849.

4-*p*-Tolylecinnoline and its salts (STOERMER and FINCKE), 1909, A., i, 843.

*m*-Tolylisocoumarin, action of hydrazine on (LIECK), 1906, A., i, 49.

*p*-Tolyl-*p*-cresetylthiocarbamide (JACOBSON and HUGERSHOFF), 1904, A., i, 107.

$\beta$ -*p*-Tolylcrotonic acid and its ethyl ester, and metallic salts (MATSCHEVITSCH), 1909, A., i, 304.

*p*-Tolyl- $\psi$ -cumyliodonium hydroxide, salts of (WILLGERODT and MEYER), 1912, A., i, 22.

*m*-Tolylecyanamide (PIERRON), 1907, A., i, 121.

*p*-Tolyl cyanomethyl ketone (LUBLIN: v. MEYER), 1907, A., i, 214.

Tolyldesoxyn and its oxidation (NASTUKOFF), 1907, A., i, 413.



(Toluene compounds, Me = 1.)

*N*-Tolyldiacetonitriles, *o*-, *m*-, and *p*- (v. MEYER and SCHUMACHER), 1908, A., i, 909.

Tolyldiazobisacetoximes, *o*- and *m*- (BRESLER, FRIEDEMANN, and MAI), 1906, A., i, 321.

Tolyldiazohydroxylamino-*p*-toluene, *o*-, *m*-, and *p*-, and bromo-derivatives (GEBHARD and THOMPSON), 1909, T., 772, 1117.

3-*p*-Tolyldihydroisocoumarin, 4-bromo-4-cyano- (GYR), 1907, A., i, 417.

4-*o*-Tolyldihydrodioxatriazine, 3:6-dihydroxy-, and its salts (JOVITSCHITSCH), 1907, A., i, 99.

$\alpha$ -*o*-Tolyl-3:4-dimethoxycinnamic acid, 2-amino- and 2-nitro- (PSCHORR and TAPPEN), 1906, A., i, 848.

$\alpha$ -*p*-Tolyl-3:4-dimethoxycinnamic acid, 2-amino- and 2-nitro- (PSCHORR and QUADE), 1906, A., i, 849.

1-*p*-Tolyl-2:3-dimethylbenziminazolium hydroxide, 4:7-dinitro-6-hydroxy-, and its salts (MELDOLA and KUNTZEN), 1911, T., 1300.

1-*p*-Tolyl-2:3-dimethylbenziminazolol, 4:7-dinitro-6-hydroxy- (MELDOLA and KUNTZEN), 1911, T., 1301.

1-*p*-Tolyl-2:3-dimethylbenziminazolone, 4:7-dinitro-6-hydroxy- (MELDOLA and KUNTZEN), 1911, T., 1300.

5-*o*-Tolyl-2:4-di-*o*-methylbenzylpyrimidine, 6-amino- (BEST and THORPE), 1909, T., 266.

5-*m*-Tolyl-2:4-di-*m*-methylbenzylpyrimidine, 6-amino-, and its hydrochloride (BEST and THORPE), 1909, T., 268.

5-*p*-Tolyl-2:4-di-*p*-methylbenzylpyrimidine, 6-amino-, and its hydrochloride (BEST and THORPE), 1909, T., 271.

*o*-Tolyldimethylcarbinol (KAY and PERKIN), 1905, T., 1071; (TIFFENEAU), 1907, A., i, 305.

*m*-Tolyldimethylcarbinol (PERKIN and TATTERSALL), 1905, T., 1090.

*m*-Tolyldimethylcarbinol, *o*-hydroxy- (GUILLAUMIN), 1910, A., i, 477.  
6-hydroxy- (FRIES and FICKEWIRTH), 1908, A., i, 824.

*p*-Tolyldimethylcarbinol (SMIRNOFF), 1910, A., i, 104.  
and its phenylurethane (PERKIN and PICKLES), 1905, T., 652.

*p*-Tolyldimethylcarbinol, 2-hydroxy- (hydroxythymol) (FRIES and FICKEWIRTH), 1908, A., i, 824.

*p*-Tolyldimethyleyanomethylammonium iodide (v. BRAUN), 1908, A., i, 628.

(Toluene compounds, Me = 1.)

3-*p*-Tolyl-1:6-dimethyl-3:4-di- and -1:2:3:4-tetra-hydroquinazolines and their additive salts (v. WALTHER and BAMBERG), 1906, A., i, 386.

$\delta$ -*p*-Tolyl- $\alpha$ -dimethyl-fulgenic acid and -fulgide (STOBBE and WAHL), 1906, A., i, 22.

5-*p*-Tolyl-5:5-dimethylhydantoin (BAILEY and RANDOLPH), 1908, A., i, 742.

$\delta$ -Tolyl- $\alpha$ -dimethyl- $\Delta\beta$ -pentenoic acid (BLAISE and COURTOT), 1906, A., i, 554.

1-*o*-Tolyl-3:4-dimethylpyrazole, 5-chloro- and its methiodide (MICHAELIS and LEO), 1910, A., i, 514.

1-*p*-Tolyl-3:5-dimethylpyrazole, 4-nitroso- (SACHS and ALSLEBEN), 1907, A., i, 357.

1-*o*-Tolyl-3:4-dimethyl-5-pyrazolone (MICHAELIS and LEO), 1910, A., i, 514.

1-*p*-Tolyl-2:3-dimethyl-5-pyrazolone, fusion of, with toluenesulphonamides VOSWINKEL (1911), A., i, 498.

compound of, with mercuric oxide (EURY), 1909, A., i, 57.

*p*-Tolyldimethylsulphine hydroxide and its salts (KEHRMANN and SAVA), 1912, A., i, 968.

*p*-Tolyldimethylsulphonium methyl sulphate (AUWERS and ARNDT), 1909, A., i, 644.

3-*p*-Tolyl-2:5-dimethyltetrahydrofuran, 3-hydroxy- (DUPONT), 1912, A., i, 291.

*p*-Tolyldimethyl- $\psi$ -*d*ithiomethylketuret (FROMM and SCHNEIDER), 1906, A., i, 657.

$\alpha$ -N- $\alpha$

7-Tolyl- $\beta$ -CH- $\beta$ -dinaphthacridines,

*o*-, *m*-, and *p*-, and their additive salts (SENIER and AUSTIN), 1907, T., 1235; P., 186.

Tolyldinaphthaxanthen, *o*- and *p*-amino- (ROBYN), 1905, A., i, 608.

Tolyldinaphthaxanthen, hydroxy-, and their acetyl derivatives (FOSSE), 1904, A., i, 336.

4-*o*-Tolyldioxatriazine and its salts and 5-carboxylic acid, ethyl ester (JOVITSCHITSCH), 1907, A., i, 99.

4-*m*-Tolyldioxatriazine-5-carboxylic acid, ethyl ester (JOVITSCHITSCH), 1907, A., i, 99.

*p*-Tolyldiphenylcarbamide, thio- (v. MEYER and HEIDUSCHKA), 1903, A., i, 808.

- (*Toluene compounds, Me = 1.*)
- p*-Tolyl- $\beta\beta$ -dithiolvinyl ketone, desaurin from (KELBER and SCHWARZ), 1912, A., i, 207.
- m*-Tolylenediaminodisobutyronitrile and its amide (BUCHERER and GRO-LÉE), 1906, A., i, 350.
- Tolylene-2:4-bisacetonylsulphone (TRÖGER and MEINE), 1904, A., i, 31.
- Tolylene-2:4-bisalkylsulphones (TRÖGER and MEINE), 1904, A., i, 31.
- Tolylene-2:4-bis-sulphone-acetic and -butyric acids and their esters (TRÖGER and MEINE), 1904, A., i, 31.
- m*-Tolylencarbamide, preparation of (KALLE & Co.), 1904, A., i, 346.
- Tolylenediamine poisoning (JOANNOVICs and PICK), 1910, A., ii, 435.
- 2:4-Tolylenediamine and its acyl derivatives and 5-bromo- (MORGAN and CLAYTON), 1905, T., 949.
- action of sulphur on (SCHULTZ and BEYSLAG), 1909, A., i, 269.
- monacyl derivatives, action of nitrous acid on (MORGAN, MICKLETHWAIT, and COUZENS), 1906, T., 1293; P., 240.
- formyl derivatives (ANILINFARBEN & EXTRAKT-FABRIKEN VORM. GEIGY & Co.), 1903, A., i, 522.
- N*-bistoluene-*p*-sulphonyl derivative (OEHLER), 1905, A., i, 829.
- 4:4'-oxalyl derivative (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1905, A., i, 249.
- monothiocyanate (FARBWERKE VORM. LUCIUS & BRÜNING), 1904, A., i, 870.
- 2:4-Tolylenediamine, 5-nitro-, azo-derivatives of (MORGAN and WOOTTON), 1905, T., 940; P., 179.
- 3:5-dinitro-, acetyl derivative of (BLANKSMA), 1911, A., i, 39.
- 3:4-Tolylenediamine, 4-*N*-acyl derivatives (FICHTER and ROSENBERGER), 1907, A., i, 85.
- 3:5-Tolylenediamine, 2-amino-, *N*-(2)-acetyl derivative of (FARBENFABRIKEN VORM. F. BAYER & Co.), 1907, A., i, 977.
- Tolylenediaminesulphonic acids (BÜCKEL), 1904, A., i, 532.
- Tolylenedicarbamide, action of sulphur on (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1904, A., i, 1062.
- p*-Tolylenediglycine and its nitrile (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1904, A., i, 153.
- m*-Tolylenedimalonic acid, ethyl ester (MEYER and v. LUTZAU), 1906, A., i, 765.
- (*Toluene compounds, Me = 1.*)
- Tolylenedimethyldiamine, nitro- (FISCHER and HESS), 1904, A., i, 195.
- Tolylene-3-4-dimethyldiamine and its nitrosoamine, acetyl derivative of (FISCHER and RÖMER), 1906, A., i, 539.
- Tolylene-3:5-dimethyldiamine, 2:4-di- and 2:4:6-tri-nitro- (BLANKSMA), 1904, A., i, 566.
- Tolylene-4-dimethyl-2:4-diamine (4-*N*-dimethyl-2:4-tolylenediamine), 5-bromo-, action of diazo-compounds on, and its acyl derivatives (MORGAN and CLAYTON), 1905, T., 946; P., 182.
- interaction of, with *p*-nitrobenzene diazonium chloride (MORGAN and CLAYTON), 1906, T., 1508.
- o*-Tolylenedipthalimide (MEYER and JAEGER), 1906, A., i, 767.
- 1:2:4-Tolylenedisulphonacetoneitrile (TRÖGER and HILLE), 1905, A., i, 337.
- o*-Tolylenemalonamide (MEYER and v. LUTZAU), 1906, A., i, 765.
- 2:4-Tolylene-4-*N*-methyldiamine (*p*-methylamino-*o*-toluidine) and its sulphate (GNEHM and SCHRÖTER), 1906, A., i, 211.
- Tolylenemethyldiaminethiosulphonic acid (GNEHM and SCHRÖTER), 1906, A., i, 212.
- o*-Tolylene-*iso*-succinamide (MEYER and JAEGER), 1906, A., i, 766.
- Tolylene-3:4-sulphonylide (AUSCHÜTZ), 1912, A., i, 852.
- Tolylene toluene-2:4-dithiosulphonate (TRÖGER and MEINE), 1904, A., i, 31.
- p*-Tolylethoxymethylthylcarbinol (BLAISE and PICARD), 1912, A., i, 232.
- p*-Tolyl ethoxymethyl ketone and its derivatives (BLAISE and PICARD), 1911, A., i, 175.
- s*-*p*-Tolylethoxymethylthiocarbamide (JOHNSON and GUEST), 1909, A., i, 371.
- m*-Tolylethyl alcohol, acetyl derivative of (CARRE), 1909, A., i, 544.
- Tolylethyl alcohols, *o*- and *p*-, and their phenylurethanes (GRIGNARD), 1905, A., i, 594.
- o*-, *m*-, and *p*- (KLING), 1908, A., i, 980.
- p*-Tolylethylallylcarbinol (GRISHKEWITSCH-TROCHIMOWSKY), 1910, A., i, 108.
- $\beta$ -*o*-Tolylethylamine and its salts (EMDE), 1912, A., i, 802.
- and its salts, acetyl and *s*-thiocarbamide derivatives (BLUMENFELD), 1907, A., i, 409.

(Toluene compounds, Me = 1.)

*β*-*m*-Tolyethylamine, 4-hydroxy-, and its derivatives (BARGER and EWINS), 1910, T., 2257; P., 248.

*d*- and *l*-*α*-*p*-Tolyethylamine (STENBERG), 1910, A., i, 241.

*β*-*p*-Tolyethylamine and its salts (CIESIELSKI), 1907, A., i, 409.

2-Tolyethylamino-5-methyl-4:5-dihydrothiazoles, *o*- and *p*-, and their platinumchlorides and oxidation (YOUNG and CROOKES), 1906, T., 73.

*β*-*p*-Tolyl-*β*-ethylhydracrylic acid and its silver and barium salts (GRISHKEWITSCH-TROCHIMOWSKY), 1911, A., i, 290.

2-*o*- and -*p*-Tolyl-3-ethylisoindolinone, 3-hydroxy- (KUHARA and KOMATSU), 1911, A., i, 206.

*m*-Tolyl ethyl ketone and its oxime and semicarbazone (WALLACH and RENTSCHLER), 1908, A., i, 405.

*p*-Tolyl ethyl ketone, desaurin from (KELBER and SCHWARZ), 1912, A., i, 207.

*o*-, *m*-, and *p*-Tolyl ethyl ketones, preparation of, and their semicarbazones (SENDERENS), 1911, A., i, 134.

*β*-*m*-Tolyl-*α*-ethylpropionic acid, *β*-hydroxy-, synthesis and properties of, and its ethyl ester and salts (GRISHKEWITSCH-TROCHIMOWSKY), 1908, A., i, 799.

*β*-*p*-Tolyl-*α*-ethylpropionic acid, *β*-hydroxy-, synthesis of, and its salts and ethyl ester (MATSCHEWITSCH), 1907, A., i, 623.

2-*p*-Tolyethylquinoline, 5- and 8-amino-, and their additive salts (SCHMIDT), 1906, A., i, 39.

*p*-Tolyethylsulphone (v. MEYER), 1910, A., i, 316.

*tert*-.*o*- and -*p*-Tolylfenchol (LEROIDE), 1909, A., i, 596.

9-*m*-Tolylfluorene, *p*-hydroxy-, and its acetate (BISTRZYCKI and v. WEBER), 1910, A., i, 743.

9-*m*-Tolylfluorene-9-carboxylic acid, *p*-hydroxy-, and lactones of *o*- and 6'-hydroxy- (BISTRZYCKI and v. WEBER), 1910, A., i, 743.

9-*p*(?) -Tolylfluorene-9-carboxylic acid, *o*-hydroxy-, lactone of (BISTRZYCKI and v. WEBER), 1910, A., i, 743.

*β*-*p*-Tolylglutaric acid, nitration of, and its 3-nitro-5-amino-derivative (AVERY and UPSON), 1908, A., i, 796.

Tolyglycine. See Toluidinoacetic acid.  
*o*-Tolyglycine-5-arsinic acid (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1910, A., i, 84.

(Toluene compounds, Me = 1.)

*o*-Tolyglycinoacetic acid, preparation of (DE MOUILPIED), 1905, T., 440; P., 63.

Tolyglycollic acids. See Tolyoxyacetic acids.

*m*-Tolyglyoxylic acid, 4-hydroxy-, and its anil (FRIES and FINCK), 1909, A., i, 43.

hydrates of (FRIES), 1909, A., i, 175.  
phenylhydrazone of, and its benzoyl derivative, and phenylhydrazone of its phenylhydrazide (AUWERS and APITZ), 1911, A., i, 585.

*p*-Tolyglyoxylic acid, 3-hydroxy- (FRIES and FINCK), 1909, A., i, 44.

hydrates of (FRIES), 1909, A., i, 175.

*p*-Tolyguanidine and its nitrate (KÄMPF), 1904, A., i, 534.

*p*-Tolyguanido-*p*-tolyl-*ψ*-benzylthiocarbamide (FROMM and WELLER), 1908, A., i, 701.

*p*-Tolyguanido-*p*-tolylthiocarbamide and its acetyl derivative and its anhydro-compound (FROMM and WELLER), 1908, A., i, 701.

*p*-Tolyl heptadecyl ketone (RYAN and NOLAN), 1912, A., i, 750.

δ-*p*-Tolyl-heptane- and -iso-heptane-αβ-triol (GRISHKEWITSCH-TROCHIMOWSKY), 1911, A., i, 291.

Tolycyclohexanes, *m*- and *p*- (KURSANOFF), 1907, A., i, 600.

γ-*p*-Tolylhexane-γε-triol (GRISHKEWITSCH-TROCHIMOWSKY), 1911, A., i, 290.

*p*-Tolylhomocampholic acid, hydroxy-, sodium salt (HALLER), 1912, A., i, 359.

3-*p*-Tolylhydantoic acid and its ethyl ester (BAILEY and RANDOLPH), 1908, A., i, 741.

1-*o*- and -*p*-Tolylhydantoins (JOHNSON, PFAU, and HODGE), 1912, A., i, 807.

*β*-.*o*-, -*m*-, and -*p*-Tolylhydantoins and their γ-alkyl compounds and their bromo-derivatives (FRERICHS and BREUSTEDT), 1903, A., i, 17.

Tolyl-2-hydrazine, 5-iodo- (FICHTER and PHILIPP), 1907, A., i, 83.

*m*-Tolylhydrazine and its nitrile and its iminochloride and amidine (FARBENFABRIKEN VORM. F. BAYER & Co.) 1906, A., i, 460.

Tolyhydrazines, *o*- and *p*-, oxidation of, by free oxygen (CHATTAWAY), 1907, T., 1330; P., 183.

*m*-Tolylhydrazinecarboxylic acid, phenyl and methyl esters and imino-ethers (FARBENFABRIKEN VORM. F. BAYER & Co.), 1906, A., i, 460.



(Toluene compounds, Me = 1.)

**Tolylhydrazinoacetic acids**, *o*-, *m*-, and *p*-, and their benzylidene derivatives (BUSCH and MEUSSDÖRFFER), 1907, A., i, 348.

***o*-Tolylhydrazinomethylenemalonic acid**, ethyl ester (MICHAELIS and ZIESEL), 1910, A., i, 513.

**Tolylhydrazonemecyanoacetic acids**, *o*- and *p*-, ethyl esters, and their acetyl derivatives and amides (WEISSBACH), 1903, A., i, 541.

***p*-Tolylhydrazonemesoxalylbishydr-azonetoluene-*p*-azoacetoacetic acid**, ethyl ester (BÜLOW and BOZENHARDT), 1910, A., i, 206.

***p*-Tolylhydrazinoaminomethylenecarboxylic acid**, ethyl ester, and amide (BOWACK and LAPWORTH), 1905, T., 1865.

***p*-Tolylhydrazinohalogenmethylenecarboxylic acids**, ethyl esters (BOWACK and LAPWORTH), 1905, T., 1863.

***m*-Tolylhydroxylamine**, action of hydrochloric acid on (BAMBERGER and DE WERRA), 1903, A., i, 21; (BAMBERGER, TER-SARKISSJANZ, and DE WERRA), 1903, A., i, 25.

**$\beta$ -*p*-Tolylhydroxylamine**,  $\beta$ -cyano-, and its iminochloride hydrochloride (WIELAND, ROSEEU, and GAMBARJAN), 1912, A., i, 907.

***p*-Tolylidene chloride** (AUWERS and KEIL), 1903, A., i, 621.

***p*-Tolylidene chloride**, 3:5-dinitro- (GATTERMANN), 1906, A., i, 589.

**Tolylideneacetone**. See Methylstyryl methyl ketone.

***p*-Tolylidene-*p*-aminobenzoic acid** (MANCHOT and FURLONG), 1910, A., i, 33.

***m*-Tolylideneaniline**, *o*-hydroxy-, and its acetyl derivatives (ANSELMINO), 1907, A., i, 913.

2-iodo- (MAYER), 1912, A., i, 478.

***p*-Tolylideneaniline**, 6-hydroxy- (ANSELMINO), 1906, A., i, 14.

*o*-, *m*-, and *p*-Tolylideneanilines (LAW), 1912, T., 158.

***p*-Tolylideneanthranilic acid** (WOLF), 1910, A., i, 735.

*m*- and *p*-Tolylideneecamphor, preparation of (HALLER and BAUER), 1909, A., i, 595.

***p*-Tolylidenecarbamidoxime** (CONDUCHÉ), 1906, A., i, 155.

***m*-Tolylidene-*p*-chloroaniline** and *o*- and *p*-toluidines, 6-hydroxy- (ANSELMINO), 1906, A., i, 14.

***p*-Tolylidenedeoxybenzoins**, isomeric, and their phenylhydrazone (KLAGES and TETZNER), 1903, A., i, 100.

(Toluene compounds, Me = 1.)

**2-*o*-Tolylidenediketohydrindene** (FECHT), 1907, A., i, 907.

***p*-Tolylidenedipyrrocoline** (SCHOLTZ), 1912, A., i, 386.

***p*-Tolylidenehydrazine**, benzoyl derivative, silver compound of (STOLLÉ and MUNCH), 1905, A., i, 94.

***o*-Tolylidenemalonic acid**, methyl ester (MEERWEIN), 1908, A., i, 90.

***m*-Tolylidene- $\beta$ -naphthylamines**, 2- and 6-hydroxy- (SENIER, SHEPHEARD, and CLARKE), 1912, T., 1956.

***p*-Tolylidenepicolide** (SCHOLTZ), 1912, A., i, 386.

***m*-Tolylidenerhodanic acid**, 4- and 6-hydroxy- (BARGELLINI), 1906, A., i, 384.

***m*-Tolylidene-*m*-toluidine**, 4-hydroxy- (SENIER and SHEPHEARD), 1909, T., 1952.

***m*-Tolylidene-*m*- and *p*-toluidines** (LAW), 1912, T., 163.

***p*-Tolylidene-*o*-, *m*-, and *p*-toluidines** (LAW), 1912, T., 162.

***p*-Tolylidenetriazoacetohydrazide** (CURTIUS and BOCKMÜHL), 1912, A., i, 426.

***p*-Tolylimino-*p*-chlorophenyl-*p*-chlorostyrylmethane**, isomeric forms of, and their pierates and hydrochlorides (STRAUS and ACKERMANN), 1910, A., i, 242.

**2-Tolylimino-5:5-diethylbarbituric acids**, *o*- and *p*- (FARBWERKE FORM. MEISTER, LUCIUS, & BRÜNING), 1906, A., i, 987.

**2-*p*-Tolylimino-3:4-diphenyl-2:3-thiazoline** (v. WALTHER and GREIFENHAGEN), 1907, A., i, 350.

**2-Tolylimino-3:4-ditolyl-2:3-thiazolines**, *o*-, *m*-, and *p*-, and their salts (v. WALTHER and GREIFENHAGEN), 1907, A., i, 350.

**2-Tolylimino-5-methyltetrahydrothiazoles**, *o*- and *p*-, and their acetyl derivatives (YOUNG and CROOKES), 1906, T., 72.

**2:5-*p*-Tolylimino-1-phenyl-2:3-dimethylpyrazole**, *o*-nitro-, and its salts (MICHAELIS, WÜRZ, and DOETMANN), 1911, A., i, 1041.

**2:5-*o*- and *p*-Tolylimino-1-phenyl-2:3-dimethylpyrazoles**, and their salts (MICHAELIS and MENTZEL), 1911, A., i, 1042.

**5-*p*-Tolylimino-1-phenyl 3-methylpyrazolone** and its derivatives and 4-oximino-, and its hydrochloride (MICHAELIS and RISSÉ), 1911, A., i, 1039.

(Toluene compounds, Me = 1.)

- Tolyliminotolylamino-**. See Toluidino-tolylimino-.
- o*-Tolylimino-*o*-tolylloxamic acid, ethyl ester (BAUER), 1907, A., i, 603.
- o*-Tolylimino-*p*-tolyl-*p*-tolutriazine (BUSCH and BERGMANN), 1905, A., i, 309.
- o*-Tolyindigotin, bromo-derivatives (BADISCHE ANILIN- & SODA-FABRIK), 1904, A., i, 1020.
- 2-*o*-Tolylisocindolinone**, 3-hydroxy- (KUHARA and KOMATSU), 1911, A., i, 206.
- o*-, *m*-, and *p*-Tolylmenthylbenzamidines and their hydrochlorides and platinichlorides (COHEN and MARSHALL), 1910, T., 331.
- p*-Tolylmercuric bromide (POPE and GIBSON), 1912, T., 736.
- s*-*p*-Tolylmethoxymethylthiocarbamide (JOHNSON and GUEST), 1910, A., i, 730.
- p*-Tolylmethylallylcarbinol (GRISHKEWITSCH-TROCHIMOWSKY), 1909, A., i, 151.
- m*-Tolylmethylamine, 6-nitro- (TSCHERNIAC), 1903, A., i, 490.
- p*-Tolylmethylaminoacetoneitrile, *m*-bromo-, and its platinichloride and picrate (v. BRAUN), 1908, A., i, 626.
- 2-Tolylmethylamino-5-methyl-4:5-di-hydrothiazoles**, *o*- and *p*-, and their platinichlorides and oxidation (YOUNG and CROOKES), 1906, T., 72.
- 4-*p*-Tolyl-1-methylanthraquinone** (SEER and KARL), 1912, A., i, 572.
- 4-*p*-Tolyl-1-methylanthrone-10** (SEER and KARL), 1912, A., i, 572.
- 1-*o*-Tolyl-2-methylbenziminazole**, 4:7-dinitro-6-hydroxy-, and its silver salt, acetyl derivative, and ethyl ether (MELDOLA and HAY), 1908, T., 1672.
- 1-*p*-Tolyl-2-methylbenziminazole**, 4:7-dinitro-6-hydroxy-, and its salts and ethyl ether (MELDOLA and HAY), 1908, T., 1673.
- β*-*p*-Tolyl- $\gamma$ -methyl- $\Delta\alpha$ -butylene** (GRISHKEWITSCH-TROCHIMOWSKY), 1911, A., i, 291.
- o*-, *m*-, and *p*-Tolyl- $\alpha$ -methylisobutyramide (HALLER and BAUER), 1911, A., i, 726.
- α*-*p*-Tolyl- $\alpha$ -methylbutyric acid**, synthesis of (RUPE and BÜRGIN), 1911, A., i, 446.
- o*-, *m*-, and *p*-Tolyl- $\alpha$ -methylisobutyric acids (HALLER and BAUER), 1911, A., i, 726.

(Toluene compounds, Me = 1.)

- p*-Tolylmethylcarbinol and its phenylurethane (KLAGES and KEIL), 1903, A., i, 554.
- $\gamma$ -*p*-Tolyl- $\gamma$ -methylisocrotonic acid (RUPE and STEINBACH), 1911, A., i, 293.
- o*-Tolylmethylcyanamide (v. BRAUN), 1908, A., i, 685.
- p*-Tolylmethylcyanamide (v. BRAUN), 1908, A., i, 626.
- 5-Tolyl-10-methyldihydroacridines**, *o*-, *m*-, and *p*-, 5-hydroxy-, and their ethers (SCHMID and DECKER), 1906, A., i, 305.
- 3-*p*-Tolyl-6-methyl-3:4-dihydro- $\beta$ -phenotriazine** and its salts (v. WALTHER and BAMBERG), 1905, A., i, 299.
- 1-*p*-Tolyl-2-methyl-4:5-dihydropyrrole** salts (MARKWALDER), 1907, A., i, 638.
- 3-*p*-Tolyl-6-methyl-3:4-di- and -1:2:3:4-tetra-hydroquinazolines** and their additive salts (v. WALTHER and BAMBERG), 1906, A., i, 385.
- 3-*p*-Tolyl-2-methyl-4-dihydroquinazoline**, and dinitro- (BOGERT and GEIGER), 1912, A., i, 396.
- methiodide (BOGERT and GEIGER), 1912, A., i, 511.
- 1-*p*-Tolyl-6- and -7-methyl-1:2-dihydro-2-quinoxalones** and their carboxylic acids (KÜHLING and KASELITZ), 1906, A., i, 464.
- 5-*p*-Tolyl-2-methyldiphenylmethane-2'-carboxylic acid** (SEER and KARL), 1912, A., i, 572.
- p*-Tolylmethylethylallylammonium salts (WEDEKIND and OBERHEIDE), 1904, A., i, 732.
- p*-Tolylmethylethylcarbinol and its polymeride (RUPE and BÜRGIN), 1911, A., i, 446.
- o*-Tolyl-1-methyl-3-ethylphenyl-4-iodinium hydroxide and salts (WILLGERODT and BRANDT), 1904, A., i, 658.
- o*-Tolyl-2-methyl-4-ethylphenyliodonium hydroxide and its salts (WILLGERODT and JAHN), 1912, A., i, 22.
- p*-Tolylmethylethylsulphonium methyl sulphate (AUWERS and ARNDT), 1909, A., i, 645.
- Tolylmethylfurfuraldehyde** (FENTON and ROBINSON), 1909, T., 1338.
- p*-Tolylmethylglycidic acid, ethyl ester (DARZENS), 1907, A., i, 179.
- 2-*o*-Tolyl-1-methyl- $\Delta^2$ -cyclohexene** (MURAT), 1909, A., i, 147.
- β*-*p*-Tolyl- $\alpha$ -methylhydracrylic acid** and its ethyl ester and silver and sodium salts (ŠTRSCHALKOVSKY), 1909, A., i, 304.

(Toluene compounds, Me = 1.)

***β*-p-Tolyl-*β*-methylhydracrylic acid** (MATSCHUREVITSCH), 1909, A., i, 304.

metallic salts (GRISHKEWITSCH-TROCHIMOWSKY), 1909, A., i, 151.

***o*-Tolyl-*o*-methyloximesatin** (v. OSTROMISSENSKY), 1908, A., i, 82.

***p*-Tolyl-*p*-methyloximesatin** (v. OSTROMISSENSKY), 1908, A., i, 889.

***p*-Tolylmethylketazine** (CURTIUS and KOF), 1912, A., i, 733.

***m*-Tolyl methyl ketone**, condensation of, with naphthaldehydic acid (WIECHOWSKI), 1905, A., i, 707.

***m*-Tolyl methyl ketone**, 2-hydroxy-, phenylhydrazone of, and its derivatives (AUWERS and DANNEHL), 1909, A., i, 441.

***p*-Tolyl methyl ketone** (*p*-acetyl*toluene*) (THOMAE and LEHR), 1907, A., i, 138.

and its semicarbazone (AUWERS), 1905, A., i, 434.

action of ammonia on (THOMAE and LEHR), 1907, A., i, 139.

action of carbon disulphide and potassium hydroxide on (KELBER and SCHWARZ), 1911, A., i, 740.

and allyl iodide, action of magnesium on a mixture of (GRISHKEWITSCH-TROCHIMOWSKY), 1909, A., i, 151.

and ethyl bromoacetate, action of zinc on a mixture of (MATSCHEVITSCH), 1909, A., i, 304.

***p*-Tolyl methyl ketone**, *o*-chloro-, and its oxime and semicarbazone (WALLACH and LAUTSCH), 1906, A., i, 523.

1:6-*d*hydroxy-. See Orcacetophenone.

**Tolylmethyl ketones**, *o*- and *p*- (EYKMAN, BERGEMA, and HENRARD), 1905, A., i, 360.

*m*- and *p*-, hydroxy-, and their derivatives (ANSCHUTZ and SCHOLL), 1911, A., i, 316.

*o*-, *m*-, and *p*-, and their oximes and semicarbazones (TIFFENEAU), 1907, A., i, 305.

preparation of, and their semicarbazones (SENDERENS), 1911, A., i, 134.

**6-*p*-Tolyl-3-methylnaphthalene** (AUWERS and KELL), 1901, A., i, 26.

**6-*o*-Tolyl-1-methyl-5:7-naphthylenediamine** and its dihydrochloride and diacetyl derivative (BEST and THORPE), 1909, T., 266; P., 29.

**6-*m*-Tolyl-2-methyl-5:7-naphthylenediamine** and its dihydrochloride and diacetyl derivative (BEST and THORPE), 1909, T., 269; P., 29.

(Toluene compounds, Me = 1.)

**7-*p*-Tolyl-2-methyl-6:8-naphthylenediamine** and its dihydrochloride and diacetyl derivative (BEST and THORPE), 1909, T., 272; P., 29.

***p*-Tolylmethylnitrosoamine**, 2:5-dinitro-, and 2:3:6-*trinitro*- (MORGAN and CLAYTON), 1911, T., 1942.

**Tolylmethylphthalimide**, *o*-, *m*-, and *p*-nitro- (TSCHERNIAC), 1903, A., i, 490.

**Tolyl-2-methylpiperidide**, *di*bromo- (HILDEBRANDT), 1905, A., i, 155.

**1-*o*-Tolyl-3-methylpyrazole**, 4-bromo- (MICHAELIS and KÄDING), 1910, A., i, 516.

5-chloro-, and its additive salts (MICHAELIS and EISENSCHMIDT), 1904, A., i, 624.

**1-Tolyl-5-methylpyrazoles**, *o*- and *p*-, 3-chloro-, and their methiodides (MICHAELIS and BEHRENS), 1905, A., i, 380.

**1-*p*-Tolyl-3-methylpyrazole-4-azobenzene** and its 5-chloro-, 5-nitro-, 5-thio-, 5-thioalkyl-, 5-phenylsulphone, and 5-thiobenzoate derivatives, and 5-sulphide (MICHAELIS, LEONHARDT, and WAHLE), 1905, A., i, 395.

**1-*p*-Tolyl-5-methylpyrazole-4-azobenzene**, 3-chloro- (MICHAELIS and BEHRENS), 1905, A., i, 397.

**1-*p*-Tolyl-3-methylpyrazole-4-*p*-azotoluene** and its 5-chloro- and 5-thio-derivatives (MICHAELIS, LEONHARDT, and WAHLE), 1905, A., i, 395.

**1-*p*-Tolyl-3-methylpyrazole-5-sulphonic acid** and its derivatives (MICHAELIS and DULK), 1908, A., i, 692.

**1-*p*-Tolyl-3-methyl-5-pyrazolidone-3-carboxylic acid** and its *p*-tolylhydrazide (FICHTER and FÜEG), 1907, A., i, 83.

**1-*p*-Tolyl-3-methylpyrazolone**, 5-thio-, and its derivatives (MICHAELIS and DULK), 1908, A., i, 691.

**1-*o*-Tolyl-3-methyl-5-pyrazolone**, iodo-, and its isonitroso-derivative (FICHTER and PHILIPP), 1907, A., i, 84.

**1-*p*-Tolyl-3-methyl-5-pyrazolone**, 4-*iso*-nitroso- (FICHTER and FÜEG), 1907, A., i, 83.

**1-*p*-Tolyl-4-methyl-3-pyrazolone** (FICHTER and VORRISCH), 1907, A., i, 82.

**1-*p*-Tolyl-5-methyl-3-pyrazolone**, 4-amino-, and its acyl derivatives, and compounds with aldehydes and ketones, 4-nitro-, and 4-nitroso- (MICHAELIS and KOTELMANN), 1907, A., i, 156.



(*Toluene compounds, Me = 1.*)

1-Tolyl-5-methyl-3-pyrazolones, *o*- and *p*-, and their salts, benzoyl, and benzylidene derivatives (MICHAELIS and BEHRENS), 1905, A., i, 380.

Tolyl-5-methyl-3-pyrazolone-4-azobenz-*enes*, 1-*o*- and -*p*- and their salts and benzenesulphonyl derivatives (MICHAELIS and BEHRENS), 1905, A., i, 396.

2-*p*-Tolyl-4-methylpyrimidine, 6-amino-, 6-chloro-, 6-thio-, 6-thiocyano- and 6-thiocarbamido-derivative (JOHNSON, STOREY, and MCCOLLUM), 1908, A., i, 838.

1-Tolyl-2-methylpyrrolidone-2-carboxylic acids, *o*-, *m*-, and *p*-, and their esters, salts, amides, aminoximes, and nitriles (KÜHLING and FALK), 1905, A., i, 372.

3-Tolyl-2-methyl-4-quinazolone, *m*- and *p*-amino-, 3:7-diamino-, and 3-amino-7-acetylamino- (BOGERT, GORTNER, and AMEND), 1911, A., i, 581.

*p*-Tolyl-6-methylquinolyl-8-iodonium hydroxide and its salts (WILLGERODT), 1905, A., i, 548.

*p*-Tolylmethylsulphone (v. MEYER), 1910, A., i, 316.

4-Tolyl-2-methylsulphoxide, 5-bromo-4-iodo- (ZINCKE and ROLLHAÜSER), 1912, A., i, 551.

3-*p*-Tolyl-6-methyl-1:2:3:4-tetrahydro-2-quinazolone and its dicarbamide derivative (v. WALTHER and BAMBERG), 1906, A., i, 387.

1-*p*-Tolyl-5-methyl-1:2:3:4-tetrazole (DIMROTH and DE MONTMOLLIN), 1910, A., i, 899.

*p*-Tolyl-mono- and -di-methyl- $\psi$ -thiocarbamides and their hydriodides (JOHNSON and BRISTOL), 1903, A., i, 752.

3-*o*- and -*p*-Tolyl-6-methyl-2-thio-1:2:3:4-tetrahydroquinazolones (SENIER and SHEPHEARD), 1909, T., 503.

*m*-Tolyl naphthalidomethyl ketone and its pseudo-acid, oxime, and phenylhydrazone (WIECHOWSKI), 1905, A., i, 708.

Tolynaphthalimides, *o*-, *m*-, and *p*- (BARGELLINI), 1905, A., i, 210.

2-*p*-Tolynaphthatriazole (CHARRIER), 1910, A., i, 287.

3-*p*-Tolyl- $\beta$ -naphthaisotriazoles (MORGAN and BRAMLEY), 1910, P., 151.

*p*-Tolyl- $\alpha$ -naphthylamine, 2:4-dinitro- (MORGAN and MICKLETHWAIT), 1912, P., 325.

*o*-Tolyl- $\beta$ -naphthylamine, *p*-chloro- (KNOLL & Co.), 1912, A., i, 345.

(*Toluene compounds, Me = 1.*)

*m*-Tolyl- $\beta$ -naphthylamine (KNOLL & Co.), 1912, A., i, 345.

*p*-Tolyl- $\beta$ -naphthylamine, thio- (ACKERMANN), 1910, A., i, 728.

*o*-, *m*-, and *p*-Tolyl- $\alpha$ -naphthylamines (KNOLL & Co.), 1912, A., i, 345.

*p*-Tolyl- $\alpha$ -naphthylamine-8-sulphonic acid (AKTIEN-GESELLSCHAFT FÜR ANILIN FABRIKATION), 1905, A., i, 717.

*p*-Tolyl- $\alpha$ -naphthylamine-6- and -7-sulphonic acids (AKTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION), 1905, A., i, 770.

*s-p*-Tolyl- $\alpha$ -naphthylcarbamide (SENIER and SHEPHEARD), 1909, T., 502.

*b-p*-Tolyl- $\alpha$ -naphthylcarbamide,  $\alpha$ -hydroxy- (SCHEIBER and BECKMANN), 1908, A., i, 725.

*p*-Tolyl-1:2-naphthylenediazoimines. See 3-*p*-Tolyl- $\beta$ -naphthaisotriazoles.

*p*-Tolyl- $\alpha$ -naphthylmethylcarbinol (SCHURAKOVSKY), 1910, A., i, 169.

Tolylisnitroacetone nitriles, *o*-, *m*-, and *p*-, sodium derivatives (WISLICENUS and WREN), 1905, A., i, 284.

*N-p*-Tolyl-*o*-nitrobenzaldoxime (BECKMANN, EBERT, NETSCHER, and SCHULZ), 1909, A., i, 654.

*p*-Tolyl-*m*-nitrobenzaldoxime (PLANCHER and PICCININI), 1905, A., i, 706.

*p*-Tolylnitromethane. See *p*-Xylene,  $\omega$ -nitro-.

*o*-Tolylnitrosoamine, *N*-benzoyl derivative (JACOBSON and HUBER), 1908, A., i, 299.

3-*p*-Tolylisoxazolidone, 2-hydroxy- (POSNER and OPPERMANN), 1907, A., i, 56.

3-*p*-Tolylisoxazole-5-one and 4-isoxitroso- (POSNER and OPPERMANN), 1907, A., i, 56; (LUBLIN), 1907, A., i, 213.

Tolylloxide, sodium, condensation of, with phenyl and tolyl esters of  $\alpha$ -bromo-fatty acids (BISCHOFF, BIHMANN, GÜSSEW, SMOLNIKOFF, and WACHTSMUTH), 1907, A., i, 32.

*m*-Tolylloxide, aluminium (COOK), 1907, A., i, 126.

Tolylloxides, nitro-, alkali, relations between the colour, composition, and constitution of the (FRAZER), 1903, A., i, 817.

Tolylloxycetic acids (*tolylglycollic acids*), *o*-, *m*-, and *p*-, nitro-derivatives of, and 3-amino-, of the para-acid (KERNOT), 1905, A., i, 286.

*p*-Tolylloxycetone, *o*-nitro- (KÖNIG and BECKER), 1912, A., i, 497.

(*Toluene compounds, Me = 1.*)

$\beta$ -*o*-Tolylloxy- $\beta$ -amyl- and - $\beta$ -phenylacrylamides (MOUREU and LAZENNEC), 1906, A., i, 432.

1-*p*-Tolylloxanthraquinone (DECKER, v. FELLEBERG, and STERN), 1907, A., i, 1066.

Tolylxybenzoic acids, *o*- and *p*- (AKTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION), 1905, A., i, 780.

*o*-, *m*-, and *p*- (ULLMANN and ZLOKASOFF), 1905, A., i, 597.

$\alpha$ -Tolylloxy-*n*- and -*iso*-butyric, -propionic, and -isovaleric acids, *o*-, *m*-, and *p*-tolyl esters (BISCHOFF, BIHMANN, GUSSEW, and SMOLNIKOFF), 1907, A., i, 33.

$\alpha$ -*p*-Tolylloxycinnamic acid and the action of heat on (STOERMER and BIESENBAACH), 1905, A., i, 525.

4-Tolylloxy-4:7-dimethylhydrocoumarin (FRIES and KLOSTERMANN), 1908, A., i, 822.

$\alpha$ -*m*-Tolylloxy- $\beta$ -furylacrylic acid and its anhydride, phenyl ester, and aniline salt (PALADINO), 1904, A., i, 180.

*o*-Tolylloxy- $\beta$ -phenylacrylonitrile (MOUREU and LAZENNEC), 1906, A., i, 276.

$\alpha$ -*p*-Tolylloxy- $\beta$ -phenylhydracrylic acid (STOERMER and BIESENBAACH), 1905, A., i, 525.

$\alpha$ -*m*-Tolylloxyp propane,  $\gamma$ -chloro- $\beta$ -hydroxy-, and its phenylurethane (MARLE), 1912, T., 312.

$\alpha$ -*o*- and -*p*-Tolylloxyp propane,  $\gamma$ -chloro- $\beta$ -hydroxy-, and their phenylurethanes (BOYD and MARLE), 1910, T., 1790; P., 208.

$\beta'$ -*o*-Tolylloxyisopropyl alcohol,  $\beta$ -amino-, and its salts and benzoyl derivative (BOYD and KNOWLTON), 1909, T., 1804; P., 235.

*p*-Tolylloxystyrene (STOERMER and BIESENBAACH), 1905, A., i, 525.

6-*p*-Tolylloxy-*m*-toluic acid (FOSSE and ROYX), 1903, A., i, 617.

*p*-Tolylpentadecylcarbinol and its derivatives (RYAN and NOLAN), 1912, A., i, 750.

*p*-Tolyl pentadecyl ketone, derivatives of (RYAN and NOLAN), 1912, A., i, 749.

$\beta$ -*p*-Tolylpentane- $\beta\delta\epsilon$ -triol (GRISHKEWITSCH-TROCHIMOWSKY), 1909, A., i, 151.

*p*-Tolyl phenoxymethyl ketone and its oxime and sulphonic acid (STOERMER and ATENSTÄDT), 1903, A., i, 41.

(*Toluene compounds, Me = 1.*)

*p*-Tolyl-*p*-phenetylthiocarbamide (JACOBSON and HUGERSHOFF), 1904, A., i, 107.

Tolyl phenylamyl ketone (v. BRAUN and DEUTSCH), 1912, A., i, 688.

*p*-Tolyl  $\delta$ -phenylbutadiene ketone and its oxime (SCHOLTZ and WIEDEMANN), 1903, A., i, 436.

*p*-Tolylphenylcarbamic acid, thio-, ethyl ester (v. MEYER and HEIDUSCHKA), 1903, A., i, 808.

*p*-Tolylphenylcarbamide, thio- (v. MEYER and HEIDUSCHKA), 1903, A., i, 808.

*p*-Tolyl-*o*-phenylenediamine, benzoyl derivative of (BORSCHKE and FEISE), 1907, A., i, 243.

*p*-Tolylphenylmethanedicarboxylic acid and its dimethyl ester (LIEBERMANN and RAHTS), 1912, A., i, 466.

*p*-Tolylphenyl-1:3:4-oxadiazole and its silver nitrate derivative (STOLLÉ and MÜNCH), 1905, A., i, 95.

*p*-Tolylphenyloxamic acid, thio-, ethyl ester, and amide (v. MEYER and HEIDUSCHKA), 1903, A., i, 808.

*p*-Tolylphthalamic acid, benzylamine salt (TINGLE and BRENTON), 1909, A., i, 799.

Tolylphthalamic acids, *m*- and *p*-, and the benzylamine salts of the *m*-acid (TINGLE and ROLKER), 1909, A., i, 29.

*m*-Tolylphthalimide (TINGLE and ROLKER), 1909, A., i, 29.

*as-o*- and -*p*-Tolylphthalimides (KUHARA and KOMATSU), 1911, A., i, 206.

1-*p*-Tolylpiperidine, action of cyanogen bromide on (v. BRAUN), 1907, A., i, 960.

Tolylpiperidylcarbamide, nitro- (BOUCHETAL DE LA ROCHE), 1904, A., i, 189.

Tolylpiperidylcarbamides, *o*- and *p*- (BOUCHETAL DE LA ROCHE), 1903, A., i, 574.

*p*-Tolylpiperidylurethane, 3-bromo- (BOUCHETAL DE LA ROCHE), 1903, A., i, 776.

$\alpha$ -*p*-Tolylpropaldehyde, isolation of, from terpinene (HENDERSON and CAMERON), 1909, T., 973; P., 151.

$\beta$ -*p*-Tolylpropaldehyde and its semicarbazone (AUWERS), 1906, A., i, 962.

*p*-Tolylpropionic acid (GATTERMANN), 1906, A., i, 590.

$\beta$ -*p*-Tolylpropionamide (BUCHNER and SCHULZE), 1911, A., i, 52.

$\alpha$ -*p*-Tolylpropionic acid,  $\alpha$ -amino-, nitrile, hydrochloride of (JAWELOFF), 1906, A., i, 427.

(Toluene compounds, Me = 1.)

$\alpha$ -*p*-Tolylpropionic acid,  $\beta\beta$ -dichloro-, and its ethyl ester (AUWERS), 1911, A., i, 299.

$\beta$ -*o*-Tolylpropionic acid,  $\beta$ -imino- $\alpha$ -cyano-, ethyl ester, and its conversion into ethyl 1:3-naphthylenediamine-2-carboxylate (ATKINSON, INGHAM, and THORPE), 1907, T., 585; P., 76.

$\beta$ -*p*-Tolylpropionic acid,  $\beta$ -amino- and its benzoyl derivative, and  $\beta$ -hydroxy- (POSNER and OPPERMANN), 1907, A., i, 56.

$\alpha\beta$ -dibromo-, ethyl ester (GATTERMANN), 1906, A., i, 589.

$\beta$ -hydroxy-, synthesis of, and its ethyl ester and salts (ANDRIEWSKY), 1908, A., i, 799.

$\beta$ -hydroxylamino-, constitution and derivatives of (POSNER and OPPERMANN), 1907, A., i, 55.

$\beta$ -*p*-Tolylpropionitrile,  $\beta$ -imino-, action of amyl nitrite on (LUBLIN), 1904, A., i, 890.

*m*-Tolylisopropyl alcohol and its acetyl and benzoyl derivatives (CARRÉ), 1909, A., i, 544.

*p*-Tolyl-propyl- and -isopropyl-carbinols (GRISHKEWITSCH-TROCHIMOWSKY), 1910, A., i, 109.

$\beta$ -*p*-Tolylpropylene  $\alpha\beta$ -glycol and its transformation product (TIEFFENEAU), 1907, A., i, 405.

$\beta$ -*p*-Tolyl- $\beta$ -propylhydraerylic acid and its barium and sodium salts (GRISHKEWITSCH-TROCHIMOWSKY), 1911, A., i, 291.

$\beta$ -*p*-Tolyl- $\beta$ -isopropylhydraerylic acid and its salts (GRISHKEWITSCH-TROCHIMOWSKY), 1911, A., i, 291.

*p*-Tolyl propyl ketone, and its phenyl hydrazone (WILLGERODT and HAMBRECHT), 1910, A., i, 118.

*o*-, *m*-, and *p*-Tolyl propyl ketones, and their semicarbazones (SENDERENS), 1911, A., i, 134.

*o*-, *m*-, and *p*-Tolyl isopropyl ketones, and their semicarbazones (SENDERENS), 1911, A., i, 135.

1-*o*-Tolylpyrazole, 5-chloro- (MICHAELIS and ZIESEL), 1910, A., i, 513.

1-*o*-Tolyl-5-pyrazolone (MICHAELIS and ZIESEL), 1910, A., i, 513.

1-*p*-Tolylpyridinium chloride, 3-hydroxy-, and its platinumchloride (ZINCKE and MÜHLHAUSEN), 1906, A., i, 33.

3-Holypyrines, *o*- and *p*-, and their hydrochlorides and picrates (MICHAELIS and BEHRENS), 1905, A., i, 380.

(Toluene compounds, Me = 1.)

Tolylpyrroles, 1-*o*-, 1-*p*-, 2-*o*-, and 2-*p*- (PICTET and LONG), 1904, A., i, 772.

*p*-Tolylpyruvic acid and its azlactone (WAKEMAN and DAKIN), 1911, A., ii, 416.

*p*-Tolylpyruvic acid,  $\omega\beta$ -dicyano-, ethyl ester and derivatives (WISLICENUS and PENNDORF), 1910, A., i, 560.

3-*m*-Tolylquinoxaline, 2:4'-dihydroxy- (FRIES and FINCK), 1909, A., i, 43.

3-*p*-Tolylquinoxaline, 2:3'-dihydroxy- (FRIES and FINCK), 1909, A., i, 44.

*p*-Tolylquinoxanthanol chloride hydrochloride (GOMBERG and CONE), 1910, A., i, 56.

3-*m*-Tolylrhodanic acid and its condensation with aldehydes (ANDREASCH), 1908, A., i, 683.

3-*o*- and -*p*-Tolylrhodanic acids and their condensation with aldehydes (ANDREASCH and ZIFSER), 1905, A., i, 931; (STUCHETZ), 1905, A., i, 933.

*o*-Tolyliserosindone, amino- (7-*o*-tolyliserosindoneoxime) (FISCHER and ARNTZ), 1907, A., i, 95.

10-*o*-Tolylsafranin, 7-hydroxy- (HELLER), 1912, A., i, 917.

*N*-*o*-Tolylsalicylaldoxime and its hydrogen triiodide (BECKMANN, EBERT, NETSCHER, and SCHULZ), 1909, A., i, 654.

*N*-*p*-Tolylsalicylaldoxime and its hydrogen penta iodide (BECKMANN, EBERT, NETSCHER, and SCHULZ), 1909, A., i, 653.

*m*-Tolylsemicarbazide, preparation of (FARBENFABRIKEN VORM. F. BAYER & CO.), 1905, A., i, 383, 949; 1906, A., i, 459.

3-*p*-Tolyl-2-styryl-4-dihydroquinazolinone (BOGERT and BEAL), 1912, A., i, 394.

methiolide (BOGERT and GEIGER), 1912, A., i, 511.

*m*-Tolyl styryl ketone (cinnameryl *m*-tolyl ketone) (MAYER), 1905, A., i, 357.

*m*-Tolyl styryl ketone, *p*-hydroxy-, and its dibromide, oxime, and acetyl derivative (NEURATH), 1907, A., i, 221.

Tolylsuccinimide, *m*-amino- (MEYER and v. LUTZAU), 1903, A., i, 766.

Tolylsulphon-. See Toluenesulphon-.

*p*-Tolylsulphonealkyl alcohols (KÖHLER and REIMER), 1904, A., i, 233.

$\beta$ -*p*-Tolylsulphone-propionic acid and - $\beta$ -phenylpropionic acid (KÖHLER and REIMER), 1904, A., i, 234.

*p*-Tolylsulphonepyrotartaric acid (KÖHLER and REIMER), 1904, A., i, 234.



(Toluene compounds,  $Me = 1$ .)

*p*-Tolylsulphone-*p*-tolylsulphoxyethane (FROMM and RAIZISS), 1910, A., i, 554.

*p*-Tolylsulphonic acid, menthyl ester (HILDITCH), 1911, T., 238.

*p*-Tolylsulphonoacetanilide (V. MEYER and HEIDUSCHKA), 1903, A., i, 809.

*p*-Tolylsulphonphenyloxamide *p*-tolylsulphonate and its acetyl and *m*-nitro-derivatives (REVERDIN and DRESEL), 1905, A., i, 51.

*o*-Tolylsulphoxidoacetic acid, *p*-chloro- (FARBENWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1910, A., i, 379.

and its homologues (KALLE & Co.), 1909, A., i, 477.

*p*-Tolyltartronic acid, methyl and ethyl esters (GUYOT and ESTÉVA), 1909, A., 237.

*p*-Tolyltaurine and its salts (WOLFBAUER), 1904, A., i, 869.

1-*p*-Tolyl-1:2:3:4-tetrazole (DIMROTH and DE MONTMOLLIN), 1910, A., i, 898.

*p*-Tolylthioacetamide (CIESIELSKI), 1907, A., i, 409.

Tolyl- $\psi$ -thiobenzylcyanocarbamides, *o*- and *p*- (FROMM and SCHNEIDER), 1906, A., i, 657.

Tolyl-dithiobiurets, *o*- and *p*-, and their reaction with methyl iodide and Tolylthiouret hydriodides (FROMM and SCHNEIDER), 1906, A., i, 657.

Tolylthiocarbamide, amino- (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1904, A., i, 869.

*p*-Tolylthiocarbamide, action of methylenedianiline on (SENIER and SHEPHEARD), 1909, T., 505.

*p*-Tolyl- $\psi$ -thiocarbamide and its salts and nitroso- (ARNDT), 1911, A., i, 918.

2-*o*-Tolylthiocarbamidoazo-*p*-toluene (BUSCH and BERGMANN), 1905, A., i, 309.

s-1-Tolylthiocarbamido-1:3:4-triazole (BÜLOW), 1909, A., i, 681.

*m*-Tolyl-dithiocarbaminacetic acid, ethyl ester (ANDREASCH), 1908, A., i, 683.

*o*-Tolylthiolacetic acid, *m*-amino- (KALLE & Co.), 1912, A., i, 452.

*m*-Tolylthiolacetic acid, 4:6-dichloro- (KALLE & Co.), 1912, A., i, 770.

*p*-Tolylthiolacetic acid, preparation of (KALLE & Co.), 1908, A., i, 605. bromide and dibromide (PUMMERER), 1909, A., i, 580.

*o*- and *m*-Tolylthiolacetic acids, 4-chloro- (KALLE & Co.), 1912, A., i, 557.

(Toluene compounds,  $Me = 1$ .)

4-*p*-Tolylthiolanthraquinone, 1-amino-, and 1-thiocyano- (GATTERMANN), 1912, A., i, 1002.

1-*o*- and -*p*-Tolylthiolanthraquinones (GATTERMANN), 1912, A., i, 1002.

1-*p*-Tolylthiolanthraquinone-2-carboxylic acid (BADISCHE ANILIN- & SODA-FABRIK), 1912, A., i, 468.

*p*-Tolylthiolanthraquinone-5-, -6-, and -8-sulphonic acids, potassium salts (GATTERMANN), 1912, A., i, 1002.

4-Tolylthiolanthraquino-1-thiazole (GATTERMANN), 1912, A., i, 1005.

2-*p*-Tolylthiolbenzoic acid, new preparation of (GOLDBERG), 1905, A., ii, 59.

4-*p*-Tolylthiol-1-methylthiolanthraquinone (GATTERMANN), 1912, A., i, 1003.

*p*-Tolylthiopyrine (MICHAELIS and DULK), 1908, A., i, 691.

3-Tolylthiopyrines, *o*- and *p*-, and their methiodides (MICHAELIS and BEHRENS), 1905, A., i, 380.

Tolylthioureas, *o*- and *p*-, action of acyl chlorides on (DIXON and HAWTHORNE), 1907, T., 136; (DIXON and TAYLOR), 1907, T., 919; P., 120.

*p*-Tolylthiouret, action of aromatic amines and hydrazines on (FROMM and WELLER), 1908, A., i, 701.

*m*-Tolyl-*m*- and -*p*-toluidines and their hydrochlorides (LAW), 1912, T., 163.

*p*-Tolyl-*o*-, -*m*-, and -*p*-toluidines and their hydrochlorides (LAW), 1912, T., 162.

*p*-Tolyl  $\delta$ -*p*-tolylbutadiene ketone, and its oxime (SCHOLTZ and WIEDEMANN), 1903, A., i, 437.

*p*-Tolyl-*o*-tolylcarbamic acid, thio-, ethyl ester (V. MEYER and E. MEYER), 1903, A., i, 810.

*p*-Tolyl-*o*-tolylcarbamide, thio- (V. MEYER and E. MEYER), 1903, A., i, 810.

2-Tolyl-*o*-tolylodonium salts, 4-nitro- (WILLGERODT and KOK), 1908, A., i, 620.

*p*-Tolyl-*o*-tolylloxamic acid, thio- (V. MEYER and E. MEYER), 1903, A., i, 810.

*p*-Tolyl-*m*-tolylloxamic acid, thio-, ethyl ester (V. MEYER and E. MEYER), 1903, A., i, 810.

*p*-Tolyl-*m*-tolylphenyl-carbamide and -thiocarbamide, thio- (V. MEYER and E. MEYER), 1903, A., i, 810.

*p*-Tolyl-*o*-tolylphenyl-carbamide, -thiocarbamide, and -oxamide, thio- (V. MEYER and E. MEYER), 1903, A., i, 810.

- (*Toluene compounds, Me = 1.*)
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- 1-*p*-Tolyl-1:2:3-triazole-4-carboxylic acid, 5-hydroxy-, ethyl ester, and its amine salts (DIMROTH and STAHL), 1905, A., i, 385.
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- p*-Tolyltrimethylammonium bromide and its perbromides (FRIES), 1906, A., i, 649.
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- p*-Tolyltriphenylmethylsulphone (v. MEYER and FISCHER), 1911, A., i, 121.
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- p*-Tolyl-4-urethane, 2:6-dibromo-3-hydroxy- (RAIFORD), 1911, A., i, 993.
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- p*-Tolylurethaneacetamide (A. and L. LUMIERE and BARBIER), 1906, A., i, 245.
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- p*-Tolylxanthenol and its chloride and peroxide (GOMBERG and CONE), 1910, A., i, 56.
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- p*-Tolyl-*p*-xylyloxamide (SUIDA), 1910, A., i, 665.
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- Triazobenzene**, *p*-amino-, and its *N*-acetyl derivative, preparation of (SILBERRAD and SMART), 1906, T., 170; P., 14.
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- α*-Triazoethane**, ***β*-bromo-**, ***β*-chloro-**, and ***β*-iodo-**. See Triazoethyl bromide, chloride and iodide.
- Triazoethyl alcohol** (*β*-*triaz ethanol*) and its acetate and *p*-nitrobenzoate (FORSTER and FIERZ), 1908, T., 1865; P., 227.
- Triazoethyl bromide, chloride, and iodide** (FORSTER and NEWMAN), 1910, T., 2576; P., 322.
- α*-Triazoethylacetacetic acid**, ethyl ester and its semicarbazone (FORSTER and NEWMAN), 1910, T., 1365; P., 197.
- β*-Triazoethylamine**, and its hydrochloride and benzoyl derivative (FORSTER and NEWMAN), 1911, T., 1278; P., 154.
- β*-Triazoethylcarbamide** (FORSTER and NEWMAN), 1911, T., 1281; P., 154.
- β*-Triazoethyl ether** (FORSTER and NEWMAN), 1910, T., 2579; P., 322.
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- β*-Triazoethylphthalimide** (FORSTER and NEWMAN), 1911, T., 1279; P., 154.
- β*-Triazoethylquinolinium iodide** and platinichloride (FORSTER and NEWMAN), 1911, T., 1282.
- α*- and *β*-Triazoethylurethanes** (CURTIUS and FRANZEN), 1912, A., i, 427.
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- 1:2:3-Triazole, 1-amino-, derivatives of** (WOLFF and HALL), 1904, A., i, 120.
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- 1:2:3-Triazole-1-acetic acid, 5-hydroxy-, hydrazonium salt of** (CURTIUS and WELDE), 1910, A., i, 787.
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- 1-(4')-Triazole-2:5-dimethylpyrrole** (BÜLOW), 1907, A., i, 99.
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- 1(1':3':4')-Triazolyl-2-pyridone-5-carboxylic acid**, 3-bromo-, methyl ester (BÜLOW and WEBER), 1909, A., i, 613.
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- $\gamma$ -Triazopropane,  $\alpha\beta$ -dibromo-** (FORSTER and FIERZ), 1908, T., 1178.
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- Tribenzylacetone**, *tri-p*-nitro-, and its dicarboxylic acid, ethyl ester (FICHTER and WORTSMANN), 1904, A., i, 592.
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- Tribenzylmethyl bromide and chloride** (SCHMERDA), 1909, A., i, 564.
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- Tri-*o*-carbomethoxyphenylmelamine** (McKEE), 1912, A., i, 140.
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- n*-Tridecane- $\alpha\alpha'\gamma$ -tricarboxylic acid** and its methyl ester (BARROWCLIFF and POWER), 1907, T., 577; P., 71.
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- 2:4:6-Triethylphenylmethylcarbinol** (5-ethylol-1:2:4-triethylbenzene) and its phenylurethane (KLAGES and KEIL), 1903, A., i, 553.
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- $\alpha\beta\gamma$ -Triethylpropane- $\alpha\alpha\gamma\gamma$ -tetracarb-oxylic acid**, ethyl ester (KÖTZ), 1907, A., i, 706.
- Triethylpropionobetaine** and its aurichloride (KLAGES and MARGOLINSKY), 1904, A., i, 145.
- Triethylpropylammonium iodide**, compound of thiocarbamide and (ATKINS and WERNER), 1912, T., 1990.
- Triethyl-*n*-propylsilicane** (BYGDÉN), 1912, A., i, 342.
- Triethylstannic** carbonate (PFEIFFER and SCHNURMANN), 1904, A., i, 232.
- Triethylsulphine** bromide, rate of decomposition of, in various solvents (v. HALBAN), 1909, A., ii, 722.
- Triethylsulphonium** and its mercuric iodides (HILDITCH and SMILES), 1907, T., 1397; P., 206.
- Triethyltrimethylenetriamine** (HOCK), 1903, A., i, 465.
- and its abnormal salt-formation (EINHORN and PRETTNER), 1904, A., i, 978.
- $\beta\beta\epsilon$ -Triethyltrisulphonehexane** (POSNER), 1904, A., i, 324.
- $\beta\delta\delta$ -Triethyltrisulphonepentane** (POSNER), 1904, A., i, 323.
- 1:3:7-Triethylxanthine**, preparation of (SCARLAT), 1905, A., i, 160.
- Trifolinal** and its acetyl derivative (POWER and SALWAY), 1910, T., 249; P., 20.
- and its dibenzoyl derivative (SALWAY), 1911, T., 2155; P., 273.
- Trifolin** (POWER and SALWAY), 1910, T., 239; P., 20.
- iso***Trifolin** (POWER and SALWAY), 1910, T., 244; P., 20.



- Trifolitin** and its acetyl derivative (POWER and SALWAY), 1910, T., 240; P., 20.
- Trifolium incarnatum**, constituents of the flowers of (ROGERSON), 1910, T., 1004; P., 112.
- Trifolium pannonicum** in soils containing copper (STUTZER), 1907, A., ii, 48.
- Trifolium pratense** (clover) flowers, the constituents of (POWER and SALWAY), 1910, T., 231; P., 20.
- Trifolium repens**, hydrogen cyanide in (MIRANDE), 1912, A., ii, 1085.
- Triformin** (*glyceryl triformate*) (VAN ROMBURGH), 1906, A., i, 725; 1910, A., i, 215.
- Trifulmin** (WIELAND), 1909, A., i, 217.
- Triglycerides**, isolation of, from crude fats (KRAFFT), 1904, A., i, 137.
- saponification of (FORTINI), 1912, A., i, 826.
- Triglycolamic acid**, production of, from glycine (SIEGFRIED), 1911, A., i, 775.
- Triglycylglycinamide** and its hydrochloride, nitrate, and picrate (FISCHER), 1907, A., i, 902.
- Triglycylglycinamidocarboxylic acid**, ethyl ester (FISCHER), 1903, A., i, 467.
- Triglycylglycine** and its ethyl ester and benzoyl derivative (FISCHER), 1904, A., i, 653.
- methyl ester and hydrochloride (FISCHER), 1906, A., i, 810.
- Triglycylglycinecarboxylic acid** and its ethyl ester (FISCHER), 1903, A., i, 467.
- Trigonelline** from *Strophanthus hispidus* (KARSTEN), 1903, A., ii, 172.
- from plants, preparation and estimation of (SCHULZE), 1909, A., ii, 605.
- action of, in the organism (KOHLE-RAUSCH), 1909, A., ii, 918; 1912, A., ii, 74.
- excretion of nicotinic acid as (ACKER-MANN), 1912, A., ii, 967.
- Triisohexylamine** and its salts (SABATIER and SENDERENS), 1905, A., i, 268.
- Tricyclohexylmethane**, preparation of (GODCHOT), 1909, A., i, 19.
- Trihydroxy-**. See under the parent Substance.
- Tri-2-hydroxy-1-hydronaphthamide** (SACHS and BRIGL), 1911, A., i, 719.
- Tri-imides** of *m*- and *p*-azo- and azoxy-benzenes (BUCHNER), 1909, A., i, 979.
- Tri-indylmethane** colouring matters (ELLINGER and FLAMAND), 1909, A., i, 846; 1911, A., i, 329; 1912, A., i, 587.
- Triketo-3-acetyl-and-benzoyl-1-methylpyrrolidine** and their derivatives (MUMM and BERGELL), 1912, A., i, 1015.
- $\alpha\beta\gamma$ -Triketo- $\alpha$ -2:4-dimethoxyphenylbutane** and its reactions (SACHS and HEROLD), 1907, A., i, 629.
- $\alpha\beta\gamma$ -Triketo- $\alpha$ -2:4-dimethoxyphenylbutane-*o*-aminophenylimide**, diethyl-acetal of (SACHS and HEROLD), 1907, A., i, 629.
- $\beta\gamma\delta$ -Triketohexane**, derivatives and reactions of (SACHS, HEROLD, and ALSLEBEN), 1907, A., i, 629.
- 1:2:3-Triketocyclohexanetriphenylhydrazone** (BORSCHKE), 1910, A., i, 178.
- Triketohydrindene hydrate** (RUHE-MANN), 1911, T., 1306; P., 163; 1911, T., 1486; P., 210.
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- $\alpha\beta\gamma$ -Triketo- $\alpha$ -*o*-methoxyphenylbutane** and its reactions (SACHS and HEROLD), 1907, A., i, 628.
- Triketo-5:6-methylenedioxyhydrindene** and its salts and derivatives (RUHE-MANN), 1912, T., 783.
- 3:4:5-Triketo-1-methylcyclohexanetriphenylhydrazone** (BORSCHKE), 1910, A., i, 179.
- 3:4:6-Triketo-1-methyl- $\Delta^1$ -cyclohexene**, 2:5:5-trichloro- (ZINCKE, SCHNEIDER, and EMMERICH), 1903, A., i, 760.
- Triketo-1-methylpyrrolidine** (MUMM and BERGELL), 1912, A., i, 1015.
- 1:3:4-Triketo-2-methyltetrahydroisoquinoline** and its mono-oxime (FREUND and BECK), 1904, A., i, 618.
- Triketone**,  $(C_{10}H_{16}O)_3$  from ethyl  $\beta$ -chloroethyl ketone and the sodium derivative of acetylacetone (BLAISE and MAIRE), 1907, A., i, 419; 1908, A., i, 391.
- Triketones** (SACHS and WOLFF), 1903, A., i, 792; (SACHS, HEROLD, and ALSLEBEN), 1907, A., i, 628.
- $\beta\gamma\delta$ -Triketopentane**, derivatives of (SACHS and WOLFF), 1903, A., i, 792.
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- 1:3:4-Triketocyclopentane**, halogen derivatives of (HENLE), 1907, A., i, 222.
- 1:3:4-Triketocyclopentane**, chloro-, and its salts, acetate, and semicarbazone (HENLE), 1907, A., i, 163.
- $\beta\gamma\delta$ -Triketo- $\delta$ -phenylbutane**, derivatives of (SACHS and WOLFF), 1903, A., i, 792.
- 2:4:6-Triketopiperidine** and its anhydride and salts, and 5-alkyl derivatives and their 3-carboxylic acids, and 3:5-dimethyl derivative (BARON, REMERY, and THORPE), 1904, T., 1742; P., 243.
- Trilactone**,  $C_{19}H_{12}O_7$ , from the substance,  $C_9H_{13}O_6N$ , and its isomeride and reactions (GABRIEL), 1907, A., i, 1043.
- Trilaurin**, action of concentrated sulphuric acid on (THIEME), 1912, A., i, 333.
- Trimannose** and its phenyloxazone (PRINGSHEIM), 1912, A., i, 833.
- Trimellitic acid** (*benzene-1:2:4-tricarboxylic acid*), preparation of (SCHULTZE), 1908, A., i, 356. esters and derivatives of (WEGSCHEIDER, PERNDANNER, and AUSPITZER), 1911, A., i, 130.
- Trimellitic acid**, nitro- (SCHULTZ and HERZFELD), 1909, A., i, 898.
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- Trimethinetriazoisimide**, Curtius and Lang's constitution of (BÜLOW), 1906, A., i, 905.  
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- 2:4:5-Trimethoxyacetophenone** (REIGRODSKI and TAMBOR), 1910, A., i, 578.  
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- 2:4:6-Trimethoxyacetylacetophenone** (JOCHUM and v. KOSTANECKI), 1904, A., i, 608.
- 3:4:5-Trimethoxy-1-allylbenzene**. See Elemicin.
- Trimethoxyanthraquinone**, hydroxy- (BENTLEY and WEIZMANN), 1908, T., 437; P., 52.
- 1:2:5-Trimethoxyanthraquinone** and its salts (FISCHER and ZIEGLER), 1912, A., i, 765.
- 2:3:4-Trimethoxybenzaldehyde** (BARGER and EWINS), 1910, T., 2258.
- 2:4:6-Trimethoxybenzaldehyde** and its acetyl derivatives and oxime (HERZIG, WENZEL, KERÉNYI, and GEHRINGER), 1904, A., i, 251.  
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- 3:4:5-Trimethoxybenzaldehyde**. See Trimethylgallaldehyde.
- 1:2:3-Trimethoxybenzene**, 5-hydroxy-. See Antiarol.
- 1:2:4-Trimethoxybenzene**, 5-amino-, and its hydrochloride and benzoyl derivative and 5-nitro- (SCHÜLER), 1907, A., i, 701.  
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- 1:2:5-Trimethoxybenzene**, 4-amino-, and its benzoyl and 1:2:5-trimethoxybenzylidene derivatives, and 4-nitro- (FABINYI and SZÉKI), 1907, A., i, 45.  
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- 1:3:5-Trimethoxybenzene**. See Phloroglucinol trimethyl ether.
- 2:4:6-Trimethoxybenzhydrol** and its methyl and ethyl ethers (v. KOSTANECKI and LAMPE), 1907, A., i, 74.
- 2:4:6-Trimethoxybenzoic acid** and its ethyl ester (HERZIG, WENZEL, and GEHRINGER), 1904, A., i, 252.
- 3:4:5-Trimethoxybenzoic acid**. See Gallic acid trimethyl ether.
- Trimethoxybenzoiccarboxylic acid**, hydroxy-, and its lactone (PERKIN and ROBINSON), 1909, T., 404.
- 3:4:5-Trimethoxybenzonitrile** (SEMMER), 1908, A., i, 558.
- 2:4:4'-Trimethoxybenzophenone** (TAMBOR and SCHÜRCH), 1910, A., i, 559.
- 2:4:5-Trimethoxybenzophenone** and its phenylhydrazone (BARGELLINI and MARTEGIANI), 1911, A., i, 966.
- 3:4:4'-Trimethoxybenzophenone**, synthesis of (v. KOSTANECKI and TAMBOR), 1907, A., i, 75.
- 4:5:4'-Trimethoxybenzophenone**, 2-hydroxy- (BARGELLINI and MARTEGIANI), 1911, A., i, 966.
- 2:3:4-Trimethoxybenzoyl chloride** and cyanide (MAUTNER), 1909, A., i, 161.
- 3:4:5-Trimethoxybenzoyl cyanide** (MAUTNER), 1908, A., i, 348.
- 3:4:5-Trimethoxybenzoylacetic acid**, ethyl ester (PERKIN and WEIZMANN), 1906, T., 1656.
- 3:4:5-Trimethoxybenzoylacetacetic acid**, ethyl ester (PERKIN and WEIZMANN), 1906, T., 1655.
- 2:3:4-Trimethoxybenzoylacetone** (BLUMBERG and v. KOSTANECKI), 1903, A., i, 644.
- 2:4:5-Trimethoxybenzoylacetophenone** (REIGRODSKI and TAMBOR), 1910, A., i, 578.

- Trimethoxy-2-benzoylbenzoic acid**, 2':3':4'-(or 3':4':5'-) (BENTLEY and WEIZMANN), 1908, T., 436; P., 52.
- 4:5:4'-Trimethoxy-2-benzoylbenzoic acid**, 2'-hydroxy-, preparation of (PERKIN and ROBINSON), 1907, P., 292; 1908, T., 513.
- 2':4':5'-Trimethoxy-1-benzoylcoumarone** (REIGRODSKI and TAMBOR), 1910, A., i, 579.
- 5:2':4'-, 5:3':4'-, and 5:2':5'-Trimethoxy-1-benzoyl-2:3-dimethylcoumarones** (TAMBOR, GÜNSBERG, KELLER, CHANSCHY-HERZENBERG, ROSENKNOPF, and LICHTENBAUM), 1912, A., i, 44.
- 5:3':4'-Trimethoxy-1-benzoyl-2-methylcoumarone** (TAMBOR, GÜNSBERG, KELLER, CHANSCHY-HERZENBERG, ROSENKNOPF, and LICHTENBAUM), 1912, A., i, 45.
- 2:3:4:5-Trimethoxybenzoyloxybenzoic acid**, methyl ester (MAUTHNER), 1912, A., i, 267.
- 5(3':4':5')-Trimethoxybenzoyloxy-3:4-dimethoxybenzoic acid** and its chloride (FISCHER and FREUDENBERG), 1912, A., i, 888.  
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- 4-(3':4':5')-Trimethoxybenzoyloxy-3-methoxybenzoic acid**, methyl ester (MAUTHNER), 1912, A., i, 267.
- 2:4:5-Trimethoxybenzoylpropionic acid** and its methyl ester (BARGELLINI and GIUA), 1912, A., i, 357.
- 3:4:5-Trimethoxybenzylamine** and its sulphate and platinumchloride and benzylmethylamine (HEFFTER and CAPELLMANN), 1905, A., i, 877.
- 4':5:6-Trimethoxy-2-benzylhydrindene**, 1:2'-*d*ihydroxy- (PERKIN and ROBINSON), 1907, T., 1100.
- 2:4:5-Trimethoxybenzylidene** diethyl ether (THOMS and BECKSTROEM), 1904, A., i, 409.
- Trimethoxybenzylidenebisacetophenone** (MAUTHNER), 1908, A., i, 729.
- 3:3':4'-Trimethoxybenzylidenecoumaranone** (BLOM and TAMBOR), 1905, A., i, 916.
- 2:4:5-Trimethoxybenzylidene-diacetophenone**, -*β*-naphthylamine, and -semicarbazide (FABINYI and SZÉKI), 1906, A., i, 422.
- 4':5:6-Trimethoxy-2-benzylidene-1-hydrindone**, 2'-hydroxy-, and its potassium, acetyl, and acetylbromomethoxy-derivatives and hydrochloride (PERKIN and ROBINSON), 1907, T., 1098.
- 2:4:5-Trimethoxybenzylidenemethyl ethyl and propyl ketones** (FABINYI and SZÉKI), 1906, A., i, 423.
- 2:4:5-Trimethoxybenzylidenemethyl nonyl ketone** and its oxime (THOMS and BECKSTROEM), 1904, A., i, 409.
- Trimethoxybenzylquinoxalone** (MAUTHNER), 1908, A., i, 986.
- Trimethoxybenzyltrimethylammonium salts** (HEFFTER and CAPELLMANN), 1905, A., i, 878.
- 2:7:8-Trimethoxybrazan** (v. KOSTANECKI and LLOYD), 1903, A., i, 645.
- 2:5:10-Trimethoxybrazan** (v. KOSTANECKI and LAMPE), 1908, A., i, 907.
- Trimethoxy-*α*-brazanquinhydrone** (PERKIN and ROBINSON), 1909, T., 396.
- Trimethoxy-*α*-brazanquinone** (PERKIN and ROBINSON), 1909, T., 394.
- Trimethoxy-*β*-brazanquinone**, preparation of (PERKIN and ROBINSON), 1909, T., 398.
- 2:7:8-Trimethoxybrazanquinone** (v. KOSTANECKI and LLOYD), 1903, A., i, 646.
- 2:7:8-Trimethoxybrazanquinone**, *tri*-nitro- (v. KOSTANECKI and LAMPE), 1908, A., i, 907.
- Trimethoxy-*α*-brazotoluinoxaline** (PERKIN and ROBINSON), 1909, T., 395.
- 1:3:5-Trimethoxy-1-bromoacetylbenzene** (DUMONT and TAMBOR), 1910, A., i, 579.
- αα*-Trimethoxy-*Δ*<sup>8</sup>-butylene** (CLAISEN), 1911, A., i, 492.
- αγδ*-Trimethoxy-*Δ*<sup>8</sup>-butylene** (GAUTHIER), 1909, A., i, 355.
- 3:4:5-Trimethoxycarbophthalide** (BARGELLINI and MOLINA), 1912, A., i, 773.
- 2:3':4'-Trimethoxychalkone**, 2'-hydroxy-, and its acetyl derivative (COHEN and v. KOSTANECKI), 1904, A., i, 683.
- 2:4:4'-Trimethoxychalkone**, 2'-hydroxy-, and its acetyl derivative (v. KOSTANECKI, LAMPE, and TRIULZI), 1906, A., i, 202.
- 2:4:5-Trimethoxychalkone** and its dibromide (REIGRODSKI and TAMBOR), 1910, A., i, 578.  
2'-hydroxy-, and its derivatives (REIGRODSKI and TAMBOR), 1910, A., i, 578.
- 2:4:5'-Trimethoxychalkone**, 2'-hydroxy-, and its acetyl derivative (BONIFAZI, v. KOSTANECKI, and TAMBOR), 1906, A., i, 202.
- 3:3':4'-Trimethoxychalkone**, 2'-hydroxy-, and its acetyl derivative (v. KOSTANECKI and SCHLEIFENBAUM), 1904, A., i, 683.



- 3:4:4'-Trimethoxychalkone and its acetyl derivative (v. KOSTANECKI and NITKOWSKI), 1905, A., i, 915.
- 4:3':4'-Trimethoxychalkone, 2'-hydroxy-, and its acetyl derivative (v. KOSTANECKI and SCHREIBER), 1905, A., i, 808.
- 4:4':5'-Trimethoxychalkone, 2'-hydroxy-, (BARGELLINI and AURELI), 1911, A., i, 856.
- 4:4':6'-Trimethoxychalkone, 2'-hydroxy-, and its acetyl derivative (v. KOSTANECKI and TAMBOR), 1904, A., i, 426.
- 3:4:5-Trimethoxytrichloromethylphthalide (BARGELLINI and MOLINA), 1912, A., i, 773.
- 2:4:5-Trimethoxycinnamic acid (MOORE), 1911, T., 1047; P., 119.
- 2:4:6-Trimethoxycinnamic acid and its methyl ester (HERZIG, WENZEL, and GEHRINGER), 1904, A., i, 252.
- 5:3':4'-Trimethoxy-2-cinnamoylphenoxycetic acid and its ethyl ester (ABELIN and v. KOSTANECKI), 1910, A., i, 631.
- Trimethoxycoumaronoisocoumarin, and its hydrobromide and bromo- (PERKIN and ROBINSON), 1909, T., 400.
- 2:4:5-Trimethoxydeoxybenzoin and its phenylhydrazone (BARGELLINI and MARTEGIANI), 1911, A., i, 966.
- 2:3':4'-Trimethoxydibenzyl- $\alpha$ -carboxylic acid (CZAPLICKI, v. KOSTANECKI, and LAMPE), 1909, A., i, 236.
- 3:4:4'-Trimethoxydiphenylacetic acid (BISTRZYCKI, PAULUS, and PERRIN), 1911, A., i, 869.
- 3:4:4'-Trimethoxydiphenylacetoneitrile (BISTRZYCKI, PAULUS, and PERRIN), 1911, A., i, 869.
- 2:4:6-Trimethoxydiphenylmethane (v. KOSTANECKI and LAMPE), 1907, A., i, 334.
- 3:3':4'-Trimethoxy-flavanone and isonitroso-, and -flavonol and its sodium and acetyl derivatives (v. KOSTANECKI and NITKOWSKI), 1905, A., i, 915.
- 5:7:4-Trimethoxy-flavanone, 3:6:8-tribromo-, and -flavone, 6:8-dibromo- (BREGER and v. KOSTANECKI), 1905, A., i, 366.
- 5:7:4'-Trimethoxy-flavanone and isonitroso- and -flavonol and its acetate (v. KOSTANECKI, LAMPE, and TAMBOR), 1904, A., i, 607.
- 6:2':4'-Trimethoxy-flavanone and isonitroso-, and -flavonol and its acetyl derivative (BONIFAZI, v. KOSTANECKI, and TAMBOR), 1906, A., i, 202.
- 6:3':4'-Trimethoxy-flavanone and isonitroso-, and -flavonol and its acetyl derivative (v. KOSTANECKI and KUGLER), 1904, A., i, 440.
- 7:2':4'-Trimethoxy-flavanone and isonitroso-, and -flavonol and its acetyl derivative (v. KOSTANECKI, LAMPE, and TRIULZI), 1906, A., i, 203.
- 7:8:2'-Trimethoxy-flavanone and isonitroso-, and -flavonol and its acetyl derivative (COHEN and v. KOSTANECKI), 1904, A., i, 683.
- 7:8:3'-Trimethoxy-flavanone and isonitroso-, and -flavonol and its acetyl derivative (v. KOSTANECKI and SCHLEIFENBAUM), 1904, A., i, 684.
- 7:8:4'-Trimethoxy-flavanone and isonitroso-, and -flavonol and its acetyl derivative (v. KOSTANECKI and SCHREIBER), 1905, A., i, 808.
- 4':5:6-Trimethoxy-1:2-hydrindochroman (PERKIN and ROBINSON), 1907, T., 1100.
- 3:4:6-Trimethoxy-8-hydroxyphenanthrene-9-carboxylic acid, lactone of (PSCHORR and KNÖFFLER), 1911, A., i, 669.
- 7:4':5'-Trimethoxy-2:3-indenobenzo-1:4-pyranol salts (PERKIN and ROBINSON), 1908, T., 1106.
- 7:4':5'-Trimethoxy-4:3-indenobenzo-1:4-pyranol salts (ENGELS, PERKIN, and ROBINSON), 1908, T., 1149.
- anhydrohydrochloride, attempt to synthesise (ENGELS, PERKIN, and ROBINSON), 1908, T., 1152.
- 7:8:4'-Trimethoxy-4:3-indenobenzo-1:4-pyranol anhydroferrichloride 5'-hydroxy- (ENGELS, PERKIN, and ROBINSON), 1908, T., 1151.
- Trimethoxymagenta and colour base from (FINGER), 1909, A., i, 518.
- 3:4:3'-Trimethoxy-4'-methylbenzophenone, 2-hydroxy-, and its derivatives (PERKIN, WEIZMANN, and HAWORTH), 1906, T., 1662.
- 2:4:3'-Trimethoxy-6-methylbenzoylacetophenone (TAMBOR), 1908, A., i, 350.
- Trimethoxy-4-methylbenzoylacetophenones, 2:6:2'-, 2:6:3'-, and 2:6:4'- (TAMBOR), 1908, A., i, 358.
- 3:4:5-Trimethoxy- $\alpha$ -methylcinnamic acid (MAUTHNER), 1908, A., i, 729.
- 3:4:4'-Trimethoxy-2:2'-oxidostilbene- $\alpha$ -carboxylic acid (PSCHORR and KNÖFFLER), 1911, A., i, 669.
- Trimethoxyphenanthrene, and its picrate, amino-, and its hydrochloride, and hydroxy- (PSCHORR and RETTBERG), 1910, A., i, 424.

- 3:4:5-Trimethoxyphenanthrene** (VON-GERICHTEN and DITTMER), 1906, A., i, 422.
- 3:4:6 Trimethoxyphenanthrene**, identity of, with thebaol methyl ether (VONGERICHTEN), 1903, A., i, 168.  
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- 3:4:8-Trimethoxyphenanthrene**, formation of, from apomorphine, and its picate (PSCHORR, EINBECK, and SPANGENBERG), 1907, A., i, 635; (PSCHORR and BUSCH), 1907, A., i, 636.
- Trimethoxyphenanthrenecarboxylic acid** (PSCHORR and MASSACIU), 1904, A., i, 768; (KNORR and PSCHORR), 1905, A., i, 814.  
ethyl and methyl esters, and derivatives (PSCHORR and RETTBERG), 1910, A., i, 424.
- 3:4:5-Trimethoxyphenanthrene-9-carboxylic acid**, 8-bromo- (PSCHORR and KOCH), 1912, A., i, 767.
- 3:4:6-Trimethoxyphenanthrene-9-carboxylic acid** and its salts (PSCHORR, SEYDEL, and STÖHRER), 1903, A., i, 167.
- 3:4:8-Trimethoxyphenanthrene-9-carboxylic acid**, 5-bromo-, and its methyl ester (KNORR and HÖRLEIN), 1909, A., i, 919.
- 3:4:5- and 3:4:7-Trimethoxyphenanthrene-9-carboxylic acids** (PSCHORR, DICKHÄUSER, and ZEIDLER), 1912, A., i, 766.
- $\alpha$ :4:5'-Trimethoxy- $\beta$ '-phenoxy- $\beta$ -phenyl-isobutyric acid**, 2:5:2'-trihydroxy-, lactone of, and its acetyl derivative (ENGELS, PERKIN, and ROBINSON), 1908, T., 1156.
- 3:4:5-Trimethoxyphenylacetaldehyde** (*trimethylhomogallaldehyde*) and its semicarbazone (SEMMLER), 1908, A., i, 558.
- 3:4:5-Trimethoxyphenylacetic acid** (*methyliridic acid*: *trimethylhomogallic acid*), synthesis of (MAUTHNER), 1908, A., i, 986.  
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- 2:4:5-Trimethoxyphenylbenzothiazole** (BARGELLINI and MARTEGIANI), 1912, A., i, 981.
- 2:4:5-Trimethoxy- $\alpha$ -phenylcinnamonnitrile** (FABINYI and SZÉKI), 1906, A., i, 424.
- Tri-*p*-methoxyphenylcyanidine** (FRANCIS and DAVIS), 1904, T., 261, 1535; P., 22, 204.
- 2:4:6-Trimethoxyphenyl 3:4-dimethoxystyryl ketone**, synthesis of (TUTIN and CATON), 1910, T., 2067; P., 223.
- 2:3:4-Trimethoxyphenylglyoxylic acid** and its amide (MAUTHNER), 1909, A., i, 161.
- 3:4:5-Trimethoxyphenylglyoxylic acid** and its phenylhydrazone and amide (MAUTHNER), 1908, A., i, 348.
- 2:4:6-Trimethoxyphenyl methoxymethyl ketone** (HERZIG and HOFMANN), 1909, A., i, 165.
- 2-*o,m,p*-Trimethoxyphenyl-4-methylene-1:4-benzopyran**, 7-hydroxy-, and its derivatives (BÜLOW and SCHMID), 1906, A., i, 201.  
7:8-dihydroxy-, salts and diacetyl derivative of (BÜLOW and SCHMID), 1908, A., i, 300.
- 2:4:5-Trimethoxyphenyl 3:4-methylenedioxystyryl ketone** (BARGELLINI and AVRUTIN), 1911, A., i, 68.
- 3:4:5-Trimethoxyphenyl methyl ketone** and its derivatives (MAUTHNER), 1910, A., i, 681.
- 2(2':4':5')-Trimethoxyphenyl- $\beta$ -naphthacinchonic acid** (FABINYI and SZÉKI), 1906, A., i, 423.
- $\alpha$ -Trimethoxyphenyl- $\beta$ -naphthacinchonic acid** (MAUTHNER), 1908, A., i, 729.
- 2:4:5-Trimethoxyphenyl- $\alpha$ -naphthylcarbinol** (SZÉKI), 1909, A., i, 920.
- $\alpha$ -2:4:5-Trimethoxyphenylpropaldehyde** (SZÉKI), 1906, A., i, 660.
- 2:3:4-Trimethoxy- $\beta$ -phenylpropionic acid** and its ethyl ester (BARGER and EWINS), 1910, T., 2259.
- 2:4:5-Trimethoxy- $\beta$ -phenylpropionic acid** and its methyl ester (MOORE), 1911, T., 1048; P., 120.
- 2:3:4-Trimethoxy- $\beta$ -phenylpropionylhydrazide hydrochloride** (BARGER and EWINS), 1910, T., 2260.
- 2:4:5-Trimethoxyphenylpropylcarbinol** (SZÉKI), 1909, A., i, 920.
- 3:4:5-Trimethoxyphenylpyruvic acid** and its oxime (MAUTHNER), 1908, A., i, 986.
- 2:4:5-Trimethoxyphenyl-*p*-tolylmethyl ether** (SZÉKI), 1909, A., i, 919.
- 3:4:5-Trimethoxyphthalanilic acid** (BARGELLINI and MOLINA), 1912, A., i, 773.
- Trimethoxyphthalic acid** from columbamine methyl ester (FEIST), 1908, A., i, 102.

- 3:4:5-Trimethoxyphthalic acid.** See Galloicarboxylic acid, trimethyl ether.
- 3:4:6-Trimethoxyphthalic acid** and its derivatives (WINDAUS), 1911, A., i, 904.
- 3:4:5-Trimethoxyphthalide** (BARGELINI and MOLINA), 1912, A., i, 773.
- 3:4:5-Trimethoxy-1-propenylbenzene.** See *iso*Elemicin.
- 2:4:5-Trimethoxypropiophenone**, derivatives of (BARGELINI and MARTEGIANI), 1911, A., i, 855.  
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- 2:3:5-Trimethoxy-1-propylbenzene** and 4-nitro- (THOMS), 1903, A., i, 558.
- 2:4:6-Trimethoxypyrimidine** (BÜTTNER), 1903, A., i, 659.
- Trimethoxystilbene**, bromonitro- (KNORR and HÖRLEIN), 1909, A., i, 919.
- 3:4:4'-Trimethoxystilbene**, 2-nitro- (PSCHORR, SEYDEL, and STÖHRER), 1903, A., i, 167.
- 2:3:4'-Trimethoxystilbene- $\alpha$ -carboxylic acid** (CZAPLICKI, v. KOSTANECKI, and LAMPE), 1909, A., i, 236.
- 5:3:4'-Trimethoxy-2-styrylcoumarone** (ABELIN and v. KOSTANECKI), 1910, A., i, 631.
- 2:4:5-Trimethoxystyryl methyl ketone** (FABINYI and SZÉKI), 1906, A., i, 422.  
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- 2:4:6-Trimethoxystyryl methyl ketone** (HERZIG, WENZEL, and GEHRINGER), 1904, A., i, 252.
- 2:4:5-Trimethoxytoluene** (LUFF, PERKIN, and ROBINSON), 1910, T., 1137; P., 133.
- Trimethoxytriphenylcarbinol** and its acetyl derivative (HERZIG), 1908, A., i, 880.
- oo'p'-Trimethoxytriphenylcarbinol** (KAUFFMANN and PANNWITZ), 1912, A., i, 351.
- oo'p'-Trimethoxytriphenylmethane** (KAUFFMANN and PANNWITZ), 1912, A., i, 351.
- Trimethoxyvinylphenanthrene** (KNORR and PSCHORR), 1905, A., i, 814.  
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- Trimethylacetaldehyde.** See  $\alpha$ -Dimethylpropaldehyde.
- Trimethylacetic acid.** See Pivalic acid.
- Trimethylacetoacetaldehyde** and its copper salt (COUTURIER and VIGNON), 1905, A., i, 571.
- $\alpha\alpha$ -Trimethylacetonedicarboxylic acid**, ethyl ester (SCHROETER and STASEN), 1907, A., i, 533.  
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- Trimethylacetophenone**, semicarbazone of (RAMART-LUCAS), 1911, A., i, 636.
- 2:4:5-Trimethylacetophenone**, semicarbazone of (AUWERS and KÖCKRITZ), 1907, A., i, 403.
- Trimethylacetylpyruvic acid** and its ethyl ester and copper salt (COUTURIER), 1910, A., i, 362.
- "Trimethyladipic acid"** (NOYES and DOUGHTY), 1905, A., i, 321.
- $\alpha\alpha\beta$ -Trimethyladipic acid**,  $\beta$ -hydroxy-, and its derivatives (HARDING), 1912, T., 1590; P., 219.
- $\alpha\alpha\delta$ -Trimethyladipic acid** (BLANC), 1907, A., i, 1058.
- $\alpha\alpha\delta$ -Trimethyladipic acid**,  $\delta$ -hydroxy- (AUWERS and HESSENLAND), 1908, A., i, 551.
- 1:3:5-Trimethylalbenzene.** See Mesitylenetrialddehyde.
- 1:3:6-Trimethylallantoin** (*caffoline*) (BILTZ and KREBS), 1911, A., i, 241.
- Tri-*p*-methylamarine** and its hydrochloride, silver salt, and nitroso-derivative (GATTERMANN), 1906, A., i, 590.
- Trimethylamine** in blood, urine, and cerebro-spinal fluid (DORÉE and GOLLA), 1911, A., ii, 212.  
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- Trimethylamine** oxide, *perchlorate* (HOFMANN, ROTH, HÖBOLD, and METZLER), 1910, A., i, 818.
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- Trimethylamine**, *tri*amino-, *tribenzoyl* derivative of (DESCUDÉ), 1903, A., i, 72.
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- $\gamma$ -Trimethylaminoacetoacetic acid**,  $\alpha$ -cyano-, ethyl ester, betaine (BENARY), 1908, A., i, 601.
- 1:3:5-Trimethylaminobenzene**, *2:4-dinitro-* (BLANKSMA), 1904, A., i, 566.
- $\gamma$ -Trimethylaminobutyric acid**,  $\alpha$ -hydroxy-, and its salts (FISCHER and GÖDBERTZ), 1911, A., i, 20.
- Trimethyldiaminodiphenylmethane** and its nitroso-derivative (v. BRAUN), 1908, A., i, 685.
- Trimethyltetraamino-diphenylmethane- and -phenyl-*o*-tolylmethane** (FARBEN-FABRIKEN VORM. F. BAYER & Co.), 1903, A., i, 519.
- Trimethyldiaminodi-*o*-tolyliminomethane** methyl sulphate (RASSOW and REUTER), 1912, A., i, 586.
- Trimethyldiaminodi-*o*-tolyl ketone** and its salts (RASSOW and REUTER), 1912, A., i, 586.
- $\gamma$ -Trimethylamino- $\beta$ -hydroxybutyric acid**, synthesis of, and its ethyl ester and other derivatives (ENGELAND: ROLLETT), 1910, A., i, 824.
- $\alpha$ -Trimethylamino-*p*-indolepropionic acid**, methyl ester, iodide of (VAN ROMBURGH and BARGER), 1911, T., 2069; P., 258.
- Trimethyldiaminophenazonium** methyl and ethyl nitrates (ULLMANN and WENNER), 1903, A., i, 407.
- $\delta$ -Trimethylamino-propylmalonic acid**, and -valeric acid, ethyl esters, hydrobromides of (WILLSTÄTTER and KAHN), 1904, A., i, 560.
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- Trimethylammonium** magnesium arsenate (BRISAC), 1903, A., i, 606.
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- Trimethylammoniumacetic acid**, calcium salt, chloride of (AUZIES), 1912, A., i, 169.
- 2-Trimethylammonium-1-benzoquinone**, *2:6-*, and *4:6-dinitro-*, and their salts (MELDOLA and HOLLELY), 1912, T., 925.
- $\alpha$ -Trimethylammoniumisohexoic acid**, salts and betaine of (NOVÁK), 1912, A., i, 338.
- $\alpha$ -Trimethylammoniumphenylpropionic acid**, salts and betaine of (NOVÁK), 1912, A., i, 338.
- Trimethylammonium**,  $\epsilon$ -amino-, benzoyl derivative, iodide and platinichloride (v. BRAUN), 1910, A., i, 820.
- $\beta\delta\delta$ -Trimethyl- $\Delta^{\alpha}$ -amylene**,  $\alpha\gamma$ -chloro-, and its acetyl derivative (UMNOVA), 1911, A., i, 250.
- $\beta\beta\delta$ -Trimethylamylene  $\alpha\delta$ -glycol** and its diacetate, and oxide (MOSSLER), 1904, A., i, 3.
- Trimethylisomamylsilicane** (BYGDÉN), 1911, A., i, 846.
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- Trimethyl arabinose** and its condensation with methyl alcohol and methylation (PURDIE and ROSE), 1906, T., 1208; P., 202.
- Trimethylarsine**, preparation of (HIBBERT), 1906, A., i, 153.
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- 3:2':4'-Trimethylazobenzene**, *6-hydroxy-*. See *4-m-Xyleneazo-p-cresol*.

- 3:5:4'-Trimethylazobenzene, 6-hydroxy-**. See *p*-Tolueneazo-4-*m*-xylenol.
- 2:4:6-Trimethylbenzaldazine** (HARDING), 1903, A., i, 287.
- 2:4:5-Trimethylbenzaldehyde** and its oxime and phenylhydrazone (GATTERMANN), 1906, A., i, 591. and its semicarbazone (AUWERS and KÖCKRITZ), 1907, A., i, 402.
- 2:4:5-Trimethylbenzaldehyde 6-hydroxy-, phenylhydrazone** (ANSELMINO), 1903, A., i, 122.
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- 1:2:4-Trimethylbenzene, 5-amino-**. See  $\psi$ -Cumidine.
- 1:3:5-Trimethylbenzene**. See Mesitylene.
- 1:2:3-Trimethylbenziminazole, 6-chloro-nitro-, and its salts and carbinol** (FISCHER and LIMMER), 1906, A., i, 896.
- Trimethyl-benziminazoles and -benziminazolols, nitro-** (FISCHER and HESS), 1904, A., i, 195.
- 1:2:3-Trimethylbenziminazol-2-ol, 5-bromo- and 5-chloro-, and their iodides** (FISCHER and MOUSON), 1905, A., i, 246.
- 2:3:6-Trimethylbenzoic acid, formation of** (LAPWORTH and WECHSLER), 1907, T., 994, 1919; P., 138.
- 2:4:5-Trimethylbenzoic acid** (*durylic acid*), preparation of, and its sodium salt (MILLS), 1912, T., 2191; P., 243.
- 2:4:5-Trimethylbenzoic acid, o-nitro-** (GATTERMANN), 1906, A., i, 592.
- 2:4:6-Trimethylbenzoic acid, benzylamine salt of** (SUDBOROUGH and ROBERTS), 1904, T., 240.
- 1:3:5-Trimethylbenzonitrile** (SCHOLL and KAČER), 1903, A., i, 255.
- 4:5:6-Trimethyl-1:2:3:7:9-benzopentazole** (BÜLOW), 1910, A., i, 81.
- 2:4:6-Trimethyl-1:3:7:9-benzotetrazole** (BÜLOW and HAAS), 1910, A., i, 203.
- 4:5:6-Trimethyl-1:3:7:9-benzotetrazole** (BÜLOW and HAAS), 1910, A., i, 80.
- 5:6:7-Trimethyl-1:2:4:9-benzotetrazole** (4:5:6-*trimethyl-2:3:7:0-diazopyridazine*) (BÜLOW and WEBER), 1909, A., i, 615.
- 2:4:6-Trimethylbenzyl bromide** (CARRÉ), 1910, A., i, 620.
- 2:4:6-Trimethylbenzyl-2:4:6-trimethylbenzylidenehydrazine** and its acetyl, benzoyl, and nitroso-derivatives (HARDING), 1903, A., i, 287.
- Trimethyl-*m*-biscyclohexenone** and its isomeride (KNOEVENAGEL), 1903, A., i, 638.
- Trimethylbornylammonium hydroxide** (FORSTER and ATTWELL), 1904, T., 1195.
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- Trimethylbrazilone, nitro-, and its oxime** (HERZIG and POLLAK), 1903, A., i, 713.
- $\psi$ -Trimethylbrazilone** and its nitro-derivative and methyl ether and its nitro-derivative (HERZIG, POLLAK, and MAYRHOFFER), 1906, A., i, 872. oxidation of, to 2-carboxy-4:5-dimethoxyphenylacetic acid (PERKIN and ROBINSON), 1908, T., 516.
- Trimethylbromoeethyl perchlorate** (HOFMANN, ROTH, HÖBOLD, and METZLER), 1910, A., i, 818.
- Trimethyl*d*-bromoethylammonium perchlorate** (HOFMANN and HÖBOLD), 1911, A., i, 608.
- $\alpha\beta\beta$ -Trimethylbutaldehyde,  $\alpha$ -hydroxy-, and its oxime** (RICHARD), 1911, A., i, 8.
- $\alpha\gamma\gamma$ -Trimethylbutane- $\alpha\beta\delta$ -tetracarboxylic acid** (PERKIN and THORPE), 1906, T., 793.
- $\alpha\gamma\gamma$ -Trimethylbutane- $\alpha\beta\delta$ -tricarboxylic acid** (PERKIN and THORPE), 1906, T., 786, 793.
- s*-Trimethylisobutanetricarboxylic acid**. See  $\gamma$ -Ethylpentane- $\beta\delta\alpha'$ -tricarboxylic acid.

- $\alpha\alpha\beta$ -Trimethyl- $\Delta\beta$ -butenoic acid** ( *$\alpha\alpha$ -dimethylisopropenylacetic acid*) and its derivatives (COURTOT), 1906, A., i, 555.
- $\alpha\alpha\beta$ -Trimethyl- $\Delta\beta$ -butenoic acid**,  $\gamma$ -bromo-, and its methyl ester (BLAISE and COURTOT), 1906, A., i, 928.
- $\beta\beta\gamma$ -Trimethyl- $\Delta\gamma$ -butenol** and its acetate and phenylurethane (COURTOT), 1906, A., i, 555.
- Trimethyl-*n*-butylammonium iodide** and platinichloride (V. BRAUN), 1911, A., i, 611.
- Trimethylbutylsilicane** (BYGDÉN), 1911, A., i, 846.
- $\alpha\alpha\beta$ -Trimethylbutyric acid** (RICHARD), 1911, A., i, 7.  
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- $\alpha\alpha\beta$ -Trimethylbutyric acid**,  $\beta$ -bromo- and  $\beta$ -iodo- (BLAISE and COURTOT), 1906, A., i, 794.
- $\beta\gamma$ -dibromo-**, and the action of heat on (BLAISE and COURTOT), 1905, A., i, 563; 1906, A., i, 927.  
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- $\beta\gamma$ -dibromo-**, and  $\beta$ -hydroxy-, ethyl ester and its acetyl derivative (COURTOT), 1906, A., i, 554.
- $\alpha\alpha\gamma$ -Trimethylbutyric acid**,  $\beta$ -bromo- $\gamma$ -hydroxy-, and  $\gamma$ -hydroxy-, lactones of (PERKIN and SMITH), 1904, T., 156; P., 11.
- $\alpha\beta\beta$ -Trimethylbutyric acid**,  $\alpha$ -hydroxy-, and its esters and amide (RICHARD), 1911, A., i, 8.
- $\gamma\gamma\gamma$ -Trimethylbutyric acid** ( *$\gamma\gamma$ -dimethylvaleric acid*) and its amide (MOUREN and DELANGE), 1903, A., i, 314, 676.
- $\alpha\alpha\beta$ -Trimethylbutyrolactone** (NOYES), 1905, A., i, 322.
- $\alpha\alpha\beta$ -Trimethylbutyrolactone**,  $\beta\gamma$ -dibromo-, and  $\gamma$ -hydroxy-, and its ethyl ether (BLAISE and COURTOT), 1906, A., i, 927.  
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- 1:3:7-Trimethylcarbazole** and its picrate (BORSCHKE, WITTE, and BOTHE), 1908, A., i, 367.
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- 1:3:5-Trimethylcarbonatobenzene** (FISCHER), 1910, A., i, 248.
- 3:4:5-Trimethylcarbonatobenzoic acid** and its bromo-derivative and pyridine salt, and its chloride and anilide (FISCHER), 1908, A., i, 893.  
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- p*-Trimethylcarbonatobenzoxyloxybenzoic acid** (FISCHER), 1908, A., i, 893.
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- 1:2:5-Trimethyl-4- $\beta\beta$ -dichloroethylbenzene** (AUWERS and KÖCKRITZ), 1907, A., i, 402.
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- 1:2:5-Trimethyl-1-dichloromethyl-4-ethylidenecyclohexadiene** (AUWERS and KÖCKRITZ), 1907, A., i, 402.
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- 1:3:4-Trimethyl-1-dichloromethyl- $\Delta^{2:5}$ -cyclohexadien-4-ol**, 5-chloro- (AUWERS), 1911, A., i, 384.
- 1:2:5-Trimethyl-1-dichloromethylcyclohexen-4-one** and its semicarbazone- (AUWERS and KEIL), 1903, A., i, 100.
- 1:2:5-Trimethyl-1-dichloromethyl-4-methylenecyclohexadiene** (AUWERS and KÖCKRITZ), 1907, A., i, 402.
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- 2:4:5-Trimethylcinnamic acid**, 6-nitro- (GATTERMANN), 1906, A., i, 592.
- Trimethylcolchicine**, salts and derivatives of (WINDAUS), 1911, A., i, 904.
- Trimethylcomenic acid**, hydroxy-, ethyl ester, action of hydroxylamine and  $\alpha$ -benzylhydroxylamine on (AZZARELLO), 1905, A., i, 916.
- 3:4:7-Trimethylcoumarin** (FRIES and KLOSTERMANN), 1906, A., i, 276. and its additive salts, oxime, and phenylhydrazone (CLAYTON), 1908, T., 529; P., 26.
- 3:4:7-Trimethylcoumarin**, 6-amino-, and 6-nitro- (CLAYTON), 1910, T., 1353.
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- 8-nitro-, and 3:5:8-trinitro- (CLAYTON), 1910, T., 1399.
- 4:6:8-Trimethylcoumarin**, 5-amino-, 5:7-diamino-, 5-hydroxy-, 5-nitro-, 5:7-dinitro-, and 3:5:7-trinitro- (CLAYTON), 1910, T., 1354, 1400, 1403.
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- Trimethylcoumarone** (BOES), 1907, A., i, 765.
- Trimethylcreatinine** platinichloride (KORNDÖRFER), 1905, A., i, 152.
- $\alpha\beta\gamma$ -Trimethylcrotonic acid**,  $\gamma$ -cyano-, ethyl ester (ROGERSON and THORPE), 1905, T., 1702.
- Trimethylcyanomethylammonium bromide** (v. BRAUN), 1907, A., i, 899.
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- $\beta\epsilon\iota$ -Trimethyl- $\Delta^{8:9}$ -decatriene- $\alpha$ -al** (BARBIER), 1907, A., i, 779.
- Trimethyldehydrobrazilin**, nitro-,  $\beta$ -acetyl derivative of (HERZIG, POLLAK, and MAYRHOFER), 1906, A., i, 872.
- 4:5:6-Trimethyl-2:3:7:0-diazpyridazine**. See 5:6:7-Trimethyl-1:2:4:9-benzotetrazole.
- 2:3:6-Trimethyl-2:6-diethylpiperidines**, 4-hydroxy-, isomeric, and their oxalates and benzoates (TRAUBE), 1908, A., i, 362.
- 2:3:6-Trimethyl-2:6-diethyl-4-piperidone** (TRAUBE), 1908, A., i, 362, 1010.
- Trimethyldiglycylglycine** and its esters and their platinichlorides (ABDERHALDEN and KAUTZSCH), 1911, A., i, 954.
- Trimethyldiapoharmine** and its salts (HASENFRATZ), 1912, A., i, 578.
- 1:3:3-Trimethyl-1:7:8:4-dicyclo- $\Delta^3$ -hexen-2-one** (BARBIER and GRIGNARD), 1907, A., i, 852.
- 3:7:10 Trimethyldihydroacridine**, 8-amino-5-hydroxy- (FOX and HEWITT), 1904, T., 532; P., 9.
- 1:2:3-Trimethyl-2:3-dihydrobenziminazol-2-ol** (FISCHER and RÖMER), 1906, A., i, 540.
- 2:2:5-Trimethyl-2:3-dihydro-*p*-benzoquinone**. See 1:1:4-Trimethyl- $\Delta^3$ -cyclohexene-2:5-dione.
- Trimethyldihydrobrazileinol**, formation of (ENGELS, PERKIN, and ROBINSON), 1908, T., 1136.
- 2':9:10-Trimethyldihydronaphthacridine** (FREUND and BODE), 1909, A., i, 515.
- 3:5:6-Trimethyl-4:5-dihydropyridazine-4-carboxylic acid**, ethyl ester (KORSCHUN and ROLL), 1911, A., i, 502.
- 2:4:6-Trimethyldihydropyridine**, 3:5-dicyano- (v. MEYER and KLEINSTÜCK), 1908, A., i, 910.
- 4:5:6-Trimethyldihydro-2-pyrimidone** salts (DE HAAN), 1908, A., i, 578.
- 1:2:2-Trimethyldihydroquinoline** and its picrate (FREUND and RICHARD), 1909, A., i, 418.
- 1:1:2-Trimethyldihydroresorcin** and its anilide and anhydride (CROSSLEY and RENOUF), 1911, T., 1105.
- action of phosphorus pentachloride on (CROSSLEY and HILLS), 1906, T., 875; P., 144.
- Trimethyldihydroresorcincarboxylic acid** (CROSSLEY and RENOUF), 1911, T., 1106.
- 1:4:5-Trimethyldihydrouracil**, 4-bromo-5-hydroxy-, chlorohydroxy-, and 4:5-dihydroxy- (BREMER), 1911, A., i, 161.
- Trimethylene dibromide**, behaviour of, towards zinc dust and acetic acid (ZELINSKY and SCHLESINGER), 1908, A., i, 594.
- action of water on (RIX), 1904, A., i, 465.
- chlorobromide and dibromide (BRUYLANTS), 1909, A., i, 198.
- chlorohydrin (HENRY), 1907, A., i, 377.

- Trimethylene dicyanide**, condensation of, with ethyl oxalate (MICHAEL), 1903, A., i, 736.  
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*cyclo***Trimethylene**. See *cyclo*Propane.
- Trimethylenesparagine** (H. and A. v. EULER), 1905, A., ii, 343.
- Trimethylene-bis-(phenyldimethylammonium iodide)** (E. and O. WEDEKIND), 1910, A., i, 835.
- Trimethylene-bis-(phenylmethylethylammonium iodide)**, two isomerides and their derivatives (E. and O. WEDEKIND), 1910, A., i, 834.
- Trimethylenecarbinol**. See *cyclo*Propylcarbinol.
- Trimethylenecarboxylic acid**. See *cyclo*Propylenecarboxylic acid.
- 2:3-Trimethylenecinchonic acid** (BORSCHKE, SCHMIDT, TIEDTKE, and ROTTSIEPER), 1910, A., i, 884.
- Trimethylenediamine**. See Propylenediamine.
- 3:3'-Trimethylenedibenzospiropyran** (BORSCHKE and GEYER), 1912, A., i, 894.
- Trimethylenedi-methyl- and -ethyl-anilines**. See Diphenyl-diethyl- and -dimethyl-propylenediamines.
- Trimethylene-ethylenedipiperidylum bromide** and its stereoisomeride (ASCHAN), 1904, A., i, 350.
- Trimethylene-*l*-iditol** (BERTRAND and LANZENBERG), 1906, A., i, 729.
- Trimethyleneiminesulphonic acid** (GABRIEL and COLMAN), 1906, A., i, 890.
- peri*-**Trimethylenenaphthalene** and its picate (LANGSTEIN), 1910, A., i, 727.
- peri*-**Trimethylenenaphthalic acid** and its anhydride (LANGSTEIN), 1910, A., i, 727.
- 1:1-Trimethylenepiperidinium iodide** and hydroxide, and decomposition of the latter by heat (DUNLOP), 1912, T., 1998; P., 230.
- Trimethylenepyrrole**, derivatives of (GHIGLIENO), 1910, A., i, 427, 505; 1911, A., i, 321.
- 2:3-Trimethylenequinoline** and its salts (BORSCHKE, SCHMIDT, TIEDTKE, and ROTTSIEPER), 1910, A., i, 884.
- 2-Trimethylenetetrahydroisoquinolinium salts** (JONES and DUNLOP), 1912, T., 1753; P., 221.
- Trimethylenetriamine**, triamino-, attempts to prepare (STOLLÉ), 1907, A., i, 496.
- Trimethylenetrisulphone**, action of, on formaldehyde (REYCHLER), 1907, A., i, 476.
- Trimethylene-trisulphone** and -disulphonesulphide (PETERS), 1905, A., i, 625.
- Trimethylenetrisulphoxide** and its derivatives (HINSBERG), 1912, A., i, 546.
- Trimethylenesureine**, action of concentrated nitric acid on (FRANCHIMONT and FRIEDMANN), 1907, A., i, 877.
- 1:3:6-Trimethyl-8-ethylallantoin**, 7-thio- (BILTZ and KREBS), 1911, A., i, 242.
- Trimethylethylammonium perchlorate** (HOFMANN, ROTH, HÜBOLD, and METZLER), 1910, A., i, 818.  
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- 1:2:4-Trimethyl-5-ethylbenzene** and its sulphonic acid (KLAGES and KEIL), 1903, A., i, 554.
- Trimethylethylene**. See  $\beta$ -Methyl- $\Delta\beta$ -butylene.
- 1:1:5-Trimethyl-2-ethylene-4:5-cyclopentene** (BOUVEAULT and BLANC), 1903, A., i, 613.
- 1:2:4-Trimethyl-4-ethyl- $\Delta^{1:5}$ -cyclohexadien-6-ol**, 3-cyano-, and its carbonate and benzoyl derivative (GARDNER and HAWORTH), 1909, T., 1960.
- 1:2:4-Trimethyl-4-ethyl- $\Delta^1$ -cyclohexenecarboxylic acid**, 6-imino-3-cyano- (GARDNER and HAWORTH), 1909, T., 1959.
- 1:3:3-Trimethyl-2-ethylidene-indoline** and its salts (PLANCHER and BONAVIA), 1903, A., i, 434.
- 1:3:3-Trimethyl-2-ethylindoline** and its picate (PLANCHER and BONAVIA), 1903, A., i, 434.
- 4:4:6-Trimethyl-3-ethyltetrahydro-1:3-oxazine** and its salts (KOHN), 1904, A., i, 933.
- 2:4:4-Trimethyl-1-ethyltrimethylenimine** and its additive salts (KOHN and MORGENSTERN), 1907, A., i, 681.
- Trimethylfructosemonoacetone** (IRVINE and GARRETT), 1910, T., 1283.
- Trimethylfurandicarboxylic acid** (TREFLIEFF), 1907, A., i, 1063.
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- 2-Trimethylgalloylcoumaran** and its leuco-compound (v. KOSTANECKI, LAMPE, and MARSCHALK), 1907, A., i, 951.

- p*-Trimethylgalloyl-*o*-ethylanisole and its leuco-compound (V. KOSTANECKI, LAMPE, and MARSHALK), 1907, A., i, 952.
- Trimethyl glucose.** See Dextrose methyl ethers.
- $\alpha\alpha\gamma$ -Trimethylglutaconic acid, esters** (BLAISE), 1903, A., i, 548.
- cis*- and *trans*-, and the anhydride of the *cis*-acid (PERKIN and SMITH), 1904, T., 155; P., 10.
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- $\alpha\beta\gamma$ -Trimethylglutaconic acid** and its silver salt, anhydride, and ester, and  $\alpha$ -cyano-, ethyl ester (ROGERSON and THORPE), 1905, T., 1702; P., 239.
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- N*-Trimethylglutamic acid, salts of** (NOVÁK), 1912, A., i, 338.
- $\alpha\alpha\gamma$ -Trimethylglutaric acid** (*hexanedicarboxylic acid*), synthesis of, and its  $\beta\gamma$ -dibromo- and  $\beta$ -hydroxy-derivatives (PERKIN and SMITH), 1903, T., 771; P., 163.
- $\alpha\alpha\gamma$ -Trimethylglutaric acid, *cis*- $\beta\gamma$ -dibromo-** (PERKIN and SMITH), 1904, T., 156; P., 10.
- $\beta$ -imino- $\alpha$ -cyano-, ethyl ester (BARON, REMERY, and THORPE), 1904, T., 1755.
- Trimethylglutarimide** (BLAISE and COURTOT), 1906, A., i, 793.
- 1:4:5-Trimethylglyoxaline** and 2-bromo-, and their additive salts (JOWETT), 1905, T., 405; P., 116.
- 2:4:5-Trimethylglyoxaline, 1-iodo-** (PAULY), 1910, A., i, 639.
- $\alpha\alpha\beta$ -Trimethylguanidine aurichloride** (SCHENCK), 1911, A., i, 843.
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- $\alpha\beta\gamma$ -Trimethylguanidine** and its aurichloride and platinichloride (SCHENCK), 1910, A., i, 99.
- $\alpha\alpha\beta$ - and  $\alpha\beta\gamma$ -Trimethylguanidines, salts of** (SCHENCK), 1912, A., i, 425.
- $\beta\delta\zeta$ -Trimethyl- $\Delta^{2:4}$ -heptadien- $\delta$ -ol** (V. FELLEBERG), 1904, A., i, 961.
- $\beta\delta\zeta$ -Trimethylheptan- $\delta$ -ol** (BODROUX and TABOURY), 1909, A., i, 546.
- Trimethylheptatriene.** See  $\beta\zeta$ -Dimethyl- $\delta$ -methylene- $\beta\epsilon$ -heptadiene.
- Trimethyl-*n*-heptylammoniumhydroxide** and iodide (V. BRAUN), 1911, A., i, 611.
- 1:1:2-Trimethyl- $\Delta^{2:4}$ -cyclohexadiene, 3:5-dichloro-** (CROSSLEY), 1903, P., 227; (CROSSLEY and HILLS), 1906, T., 880; P., 144.
- 1:1:4-Trimethyl- $\Delta^{2:5}$ -cyclohexadien-4-ol** (AUWERS and MÜLLER), 1911, A., i, 621.
- 1:1:5-Trimethyl- $\Delta^{2:4}$ -cyclohexadien-3-ol-6-carboxylic acid, 2:6-dicyano-, ethyl ester and its benzoyl derivative** (GARDNER and HAWORTH), 1909, T., 1958.
- 2:2:6-Trimethylhexahydrobenzaldehyde** (SKITA and PAAL), 1911, A., i, 449.
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- 1:1:3-Trimethylcyclohexane** (SKITA and RITTER), 1911, A., i, 272.
- 1:1:3-Trimethylcyclohexane, 3-bromo-** (CROSSLEY and GILLING), 1910, T., 2220.
- 2:6:6-Trimethylbicyclo[0, 1, 3]hexane** (KIJNER), 1912, A., i, 758.
- 2:6:6-Trimethylcyclohexane-1-carbinol, 4-hydroxy-** (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1904, A., i, 412.
- 2:6:6-Trimethylcyclohexanecarboxylic acid, 4-amino-, ethyl ester, hydr-oxide and iodide of** (MERLING, WELDE, EICHWEDE, and SKITA), 1909, A., i, 482.
- cis*- and *trans*-4-amino-, ethyl esters, and their derivatives, and 4-hydroxy-, ethyl ester (SKITA), 1907, A., i, 1040.
- 4-chloro-, and 4-bromo-, ethyl esters (MERLING, WELDE, EICHWEDE, and SKITA), 1909, A., i, 481.
- $\beta\gamma\epsilon$ -Trimethylhexane- $\beta\gamma\epsilon$ -triol** (RICHARD and LANGLAIS), 1910, A., i, 456.
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- $\beta\delta\delta$ -Trimethylhexan- $\gamma$ -ol** and its phenylurethane (HALLER and BAUER), 1910, A., i, 220.
- $\beta\delta\delta$ -Trimethylhexan- $\gamma$ -ol** and its phenylurethane (HALLER and BAUER), 1910, A., i, 300.
- 1:1:5-Trimethylcyclohexanol** (MASSON), 1912, A., i, 280.
- 1 1 2-Trimethylcyclohexan-3-ol** and its benzoyl derivatives (CROSSLEY and RENOUF), 1911, T., 1109.
- 1:1:3-Trimethylcyclohexan-3-ol** (CROSSLEY and GILLING), 1910, T., 2220; P., 252.
- 2:6:6-Trimethylcyclohexan-4-ol-1-carboxylic acid, and its lactone and ethyl ester** (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1904, A., i, 411.



- 2:6:6-Trimethylcyclohexan-4-ol-1-carboxylic acids**, isomeric, and their lactones (MERLING, WELDE, and SKITA), 1905, A., i, 349.
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- βδδ-Trimethylhexan-γ-one** (HALLER and BAUER), 1910, A., i, 300.
- 1:1:5-Trimethylcyclohexanone** and its derivatives (MASSON), 1912, A., i, 280.
- 1:1:2-Trimethylcyclohexan-3-one** and its oxime and semicarbazone (CROSSLEY and RENOUF), 1911, T., 1110; P., 137.
- 1:1:4-Trimethylcyclohexan-5-one** and its semicarbazone (BLANC), 1907, A., i, 221, 710; 1908, A., i, 655.
- 1:4:4-Trimethylcyclohexan-5-one**. See Pulenone.
- Trimethylcyclohexanones**, 2:4:4- and 3:5:5-, oximes of (WALLACH), 1906, A., i, 514.
- 2:6:6-Trimethylcyclohexan- and -Δ<sup>4</sup>-hexen-4-one-1-carboxylic acids** and their ethyl esters (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1904, A., i, 412.
- 1:1:3-Trimethylcyclohexene**. See *cyclo-Geraniolene*.
- 1:1:3-Trimethyl-Δ<sup>5</sup>-cyclohexene**, 5-chloro- (SKITA and RITTER), 1911, A., i, 272.
- 1:3:3-Trimethyl-Δ<sup>4</sup>-cyclohexene-2-carboxylic acid**. See Δ<sup>4</sup>-*cycloGeranic acid*.
- 1:1:4-Trimethyl-Δ<sup>3</sup>-cyclohexene-2:5-dione** and its derivatives (BAMBERGER and BLANGEY), 1911, A., i, 884.
- ααε-Trimethyl-Δ<sup>δ</sup>-hexenol** and its ozonide (HARRIES and WEIL), 1904, A., i, 361.
- 1:3:3-Trimethyl-Δ<sup>1</sup>-cyclohexen-6-ol**, and its acetate (BOUGAULT), 1910, A., i, 254.
- 1:3:5-Trimethyl-Δ<sup>3</sup>-cyclohexen-5-ol** (AUWERS and PETERS), 1910, A., i, 826.
- Trimethylcyclohexenone**, chloro-, and its derivatives (CROSSLEY and RENOUF), 1911, T., 1106.
- 1:1:5-Trimethyl-Δ<sup>4</sup>-cyclohexen-3-one**. See *isoPhorone*.
- 1:4:4-Trimethyl-Δ<sup>5</sup>-cyclohexen-3-one**. See *βγ-Pulenone*.
- 2:6:6-Trimethyl-Δ<sup>2</sup>-cyclohexen-4-one-1-carboxylic acid**. See *isoPhoronecarboxylic acid*.
- Trimethylhexylammonium hydroxide** and iodide (V. BRAUN), 1911, A., i, 611.
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- 3:5:5-Trimethylhydantoin** (BAILEY and RANDOLPH), 1908, A., i, 742.
- 1:7:9-Trimethylspiro-5:5-hydantoin** (*hypocaffrine*), and its decomposition (BILTZ and KREBS), 1911, A., i, 240.
- p-Trimethylhydrobenzamide** (FRANCIS), 1909, A., i, 589.
- γ-Trimethyl-β-hydroxybutyrobetaine**. See *dl-isoCarnitine*.
- Trimethyl-β-hydroxy-β-methylbutylammonium bromide** and iodide, and their benzoyl derivatives (RIEDEL), 1908, A., i, 607.
- 1:2:3-Trimethylindole**, action of chloroform on (PLANCHER and CARRASCO), 1905, A., i, 666.
- 1:2:5-Trimethylindole** (FARBENFABRIKEN VORM. F. BAYER & Co.), 1903, A., i, 516.
- 2:3:5-Trimethylindole** (GRGIN), 1906, A., i, 884.
- 2:3:3-Trimethylindolenine**, Plancher's constitution of (KONSCHIEGG), 1905, A., i, 925.  
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- 3:3:5-Trimethyl-indolenine** and its salts and -indolinone (GRGIN), 1906, A., i, 884.
- 3:8:5-Trimethylindolenine-2-formamid-oxime** and -2-formonitrile (PLANCHER and CARRASCO), 1909, A., i, 959.
- Trimethylindoline-2-ones**, 3:3:5- and 3:3:7-, and their bromo- and metallic derivatives (BRUNNER), 1907, A., i, 240.
- 4:5:7-Trimethylisatin** and its phenylhydrazones (HELLER and ASCHKENASI), 1910, A., i, 739.
- Trimethylitamic acid**, barium salt (NOYES), 1905, A., i, 322.  
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- 1:1:3-Trimethyl-4-ketopentamethylene-2:3-dicarboxylic acid**. See 1:1:3-Trimethylcyclopentan-4-one-2:3-dicarboxylic acid.
- β-Trimethyl-α-lactobetaine**, and its salts and derivatives (ROLLETT), 1910, A., i, 658.
- Trimethyl-leucylglycine** and its salts (ABDERHALDEN and KAUTZSCH), 1911, A., i, 528.
- Trimethyl-lophine** and its acetyl derivative (GATTERMANN), 1906, A., i, 590.
- isoTrimethylmelamine** (DIELS and GOLLMANN), 1911, A., i, 956.
- Trimethyl-α-methylallylammonium chloride** (FARBENFABRIKEN VORM. F. BAYER & Co.), 1912, A., i, 822.

- Trimethyl  $\alpha$ - and  $\beta$ -methylarabinosides** (PURDIE and ROSE), 1906, T., 1207; P., 201.
- 2:3:5-Trimethyl-4-methylenebenzo-1:4-pyranol**, 7-hydroxy-, and its salts (BÜLOW and DEIGLMAYR), 1904, A., i, 609.
- 3:3:5-Trimethyl-2-methyleneindoline** and its additive salts (KONSCHIEGG), 1905, A., i, 924.  
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- 3:3:7-Trimethyl-2-methyleneindoline** and its salts (PLANGGER), 1905, A., i, 718.
- 1:1:3-Trimethyl-2-methylene- $\beta$ -naphthindoline** and its iodide (ZANGERLE), 1910, A., i, 431.
- 1:3:3-Trimethyl-2-methylene- $\alpha$ -naphthindoline** and its picrate, iodide, ferri- and platini-chlorides (ZANGERLE), 1910, A., i, 430.
- 1:3:3-Trimethyl-2-methylene- $\beta\beta$ -naphthindoline** and its iodide (ZANGERLE), 1910, A., i, 431.
- 1:1:2-Trimethyl-3-methylenecyclopentane** (BOUVEAULT and BLANC), 1903, A., i, 613.
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- Trimethyl- $\gamma$ -methylsulphonepropylammonium iodide** (SCHNEIDER), 1910, A., i, 660.
- 1:2:3-Trimethyl- $\alpha$ -naphthiminazolium iodide** (FISCHER and RÖMER), 1906, A., i, 540.
- 2:2:4-Trimethylnipecotinic acid** (ISSOGLIO), 1908, A., i, 1010.
- Trimethylnitroaminobenzene**, *s*-trinitro- (BLANKSMA), 1904, A., i, 566.
- $\beta\beta\theta$ -Trimethylnonan- $\zeta$ -one** and its oxime (BODROUX and TABOURY), 1909, A., i, 699, 767.
- $\beta\beta\theta$ -Trimethyl- $\Delta^8$ -nonen- $\zeta$ -one** and its oxime (BODROUX and TABOURY), 1909, A., i, 699, 767.
- $\alpha\beta\zeta$ -Trimethyl- $\Delta^8$ -octenoic acid** ( $\alpha$ -methyl- $\alpha\beta$ -dihydrogeranic acid),  $\beta$ -hydroxy-, and its esters (TIFFENEAU), 1908, A., i, 500.
- Trimethyl-*n*-octylammonium hydroxide** (v. BRAUN), 1911, A., i, 612.
- Trimethylolbisacetophenone** (VAN MARLE and TOLLENS), 1903, A., i, 493.
- Trimethyloldiacetylmethylcyclohexenone** (KNOEVENAGEL), 1903, A., i, 639.
- Trimethylol-2-picoline** and its tribenzoate and their additive salts (LIPP and ZIRNGIBL), 1906, A., i, 381.
- 3:4:6-Trimethyl-1:2:5-oxadiazine**, 4-hydroxy-, and its additive salts (DIELS and VAN DER LEEDEN), 1905, A., i, 946.
- Trimethylpapaveroline** and its additive salts (PICTET and KRAMERS), 1903, A., i, 358.
- Trimethylparaconic acid** and its ethyl ester, bromide, chloride, amide, and anhydride (NOYES), 1905, A., i, 322.  
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- Trimethylparaconylmalonic acid**, ethyl ester (NOYES), 1905, A., i, 322.
- Trimethylparamide** (MUMM and BERGELL), 1912, A., i, 1015.
- $\beta\beta\gamma$ -Trimethylpentane** (CLARKE and JONES), 1912, A., i, 150.
- $\beta\beta\delta$ -Trimethylpentane**,  $\alpha\delta$ -dibromo- (MOSSLER), 1904, A., i, 2.
- 1:1:2-Trimethylcyclopentane**. See Dihydroisolaurelene.
- Trimethylcyclopentanecarboxylic acid**, *i*-3-bromo-, and its ethyl ester (PERKIN and THORPE), 1904, T., 144.
- 1:1:3-Trimethylcyclopentane-2:3-dicarboxylic acid** (1:1:3-trimethylpentamethylene-2:3-dicarboxylic acid) and its anhydride and methyl ester (PERKIN and THORPE), 1906, T., 791.
- 1:1:2-Trimethylcyclopentane-3:4-dione** and its osazone and dioxime (BLANC and THORPE), 1911, T., 2011.
- 1:1:2-Trimethylcyclopentane-3:4-dione-5-(or 2)-carboxylic acid** (BLANC and THORPE), 1911, T., 2011.
- $\beta\beta\gamma$ -Trimethylpentan- $\gamma$ -ol** (CLARKE and JONES), 1912, A., i, 150.
- $\beta\beta\delta$ -Trimethylpentan- $\gamma$ -ol** and its phenylurethane (HALLER and BAUER), 1910, A., i, 220.
- 1:2:3-Trimethylcyclopentanol** (NOYES and KYRIAKIDES), 1910, A., i, 754.
- i*-cis-Trimethylcyclopentanolcarboxylic acid** (PERKIN and THORPE), 1904, T., 144.
- 1:1:3-Trimethyl-4-cyclopentanol-2:3-dicarboxylic acid** (1:1:3-trimethyl-4-hydroxypentamethylene-2:3-dicarboxylic acid) (PERKIN and THORPE), 1906, T., 789.
- 1:1:4-Trimethylcyclopentan-5-one** and its oxime (BLANC), 1907, A., i, 710, 1058.  
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- $\gamma$ -4:5:5-Trimethylcyclopentanone** and its oxime and benzylidene derivative (BLANC and DESFONTAINES), 1903, A., i, 565.

- 1:1:3-Trimethylcyclopentan-4-one-2:3-dicarboxylic acid** (1:1:3-trimethyl-4-cyclopentanemethylene-2:3-dicarboxylic acid), ethyl ester, and its reactions (PERKIN and THORPE), 1906, T., 783.
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- 2:2:3-Trimethyl- $\Delta^5$ -cyclopentene-1:3-dicarboxylic acid** (KOMPPA), 1910, A., i, 51.
- Trimethylpentenylammonium iodide** (v. BRAUN), 1911, A., i, 613.
- Trimethylphenonaphthaeridines**, synthesis of, and their additive salts (SENIER and AUSTIN), 1907, T., 1240; P., 185.
- 1-(1:3:5)-Trimethylphenylmethylbenzimidazole**, dinitrohydroxy- (MELDOLA and HAY), 1909, T., 1047.
- Trimethylphloroglucinol** and its methyl ether (HERZIG and WENZEL), 1903, A., i, 491.
- Trimethylphosphine oxide** and its compounds with acids and salts (PICKARD and KENYON), 1906, T., 264; P., 42.
- $\beta\beta$ -Trimethylpimelic acid**, synthesis of (BLANC), 1906, A., i, 399.
- 2:2:4-Trimethylpiperidine** and its additive salts and 5-cyano- (ISSOGLIO), 1908, A., i, 1009.
- 2:2:6-Trimethylpiperidone**, 1-nitroso- (nitrosovinylideneacetonecamine) (KOHN and WENZEL), 1907, A., i, 237.
- 2:2:4-Trimethylpiperidylidimethylammonium iodide** (ISSOGLIO), 1908, A., i, 1009.
- Trimethylplatonic salts** (POPE and PEACHEY), 1909, T., 571.
- Trimethylplatinimethyl hydroxide** and salts (POPE and PEACHEY), 1907, P., 86.
- Trimethylisopropenylcyclopentene** (PERKIN and THORPE), 1906, T., 800.
- Trimethyl- $\alpha$ -propiobetaine** ( $\alpha$ -homobetaine), optically active (FISCHER), 1908, A., i, 80.
- $\alpha\beta$ -Trimethylpropionic acid**, bromo- $\alpha$ -hydroxy-, and  $\beta$ -chloro- $\alpha$ -hydroxy-, ethyl esters (DARZENS), 1910, A., i, 460.
- $\alpha\alpha\beta$ -Trimethylpropyl acetate and chloride** (HENRY), 1907, A., i, 674.
- $\alpha\alpha\beta$ -Trimethylpropyl alcohol** and  $\beta$ -chloro- (HENRY), 1907, A., i, 670.
- Trimethylpropylammonium chloride**,  $\gamma$ -hydroxy- ( $\gamma$ -homocholine), synthesis and derivatives of (BERLIN), 1911, A., i, 426, 771.
- chlorides,  $\gamma$ - and  $\beta$ -hydroxy- ( $\alpha$ - and  $\beta$ -homocholine), hydroxides, and other salts (MALENGREAU and LEBAILLY), 1910, A., i, 545.
- 1:2:5-Trimethyl-4-isopropylbenzene** (AUWERS and KÖCKRITZ), 1907, A., i, 403.
- 1:1:2-Trimethyl-3-isopropylcyclobutane** (LEBEDEFF), 1911, A., i, 775.
- 2:6:8-Trimethyl-3-isopropyl-1:4-dihydroquinoxaline** and its additive salts (EKELEY), 1905, A., i, 459.
- 1:2:2-Trimethyl-4-isopropylidene-5-pyrrolidone** (PAULY and HÜLTEN-SCHMIDT), 1904, A., i, 88.
- Trimethylisopropylcyclopentane**, dihydroxy- (PERKIN and THORPE), 1906, T., 800.
- 2:4:5-Trimethyl-3-propylpyrrole** picrate (FISCHER and BARTHOLOMÄUS), 1912, A., i, 901.
- Trimethylpropylsilicane** (BYGDÉN), 1911, A., i, 846.
- 4:6:6-Trimethyl-2-propyltetrahydro-1:3-oxazine** and its platinichloride and nitroso-derivative (KOHN), 1905, A., i, 929.
- 4:4:6-Trimethyl-2-isopropyltetrahydro-1:3-oxazine** and its salts and nitroso-derivative (KOHN), 1904, A., i, 933.
- 1:2:3-Trimethylpyrazole**, 2:5-imino- (1-methyliminopyrine), and its salts (MICHAELIS and LACHWITZ), 1910, A., i, 642.
- 1:2:3-Trimethylpyrazolone** and its additive salts (KNORR), 1906, A., i, 893.
- 2:4:6-Trimethylpyridine** ( $\gamma$ -collidine), and its salts (GRISHKEWITSCH-TROCHIMOWSKY), 1911, A., i, 320.
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**2:4:6-Trimethylpyridine**, 3:5-dicyano- (v. MEYER and KLEINSTÜCK), 1908, A., i, 910.

**3:4:5-Trimethylpyridine**, 2:6-dihydroxy-, and its hydrochloride and dibenzoyl derivative (ROGERSON and THORPE), 1905, T., 1703; P., 239.

**1:2:6-Trimethylpyridine-3-carboxylic acid**, 1:4-thio-, and its ethyl ester and its salts, methiodide, and trioxide, and ammonium salt, methiodide, trioxide and its mercury salt (MICHAELIS and HEYDEN), 1909, A., i, 529.

**2:4:6-Trimethylpyridinedicarboxylic acid**, ethyl ester, salts of (CIAMICIAN and SILBER), 1911, A., i, 647.

**2:4:6-Trimethylpyridinium perchlorate** (v. BAEYER and PICCARD), 1911, A., i, 901.

**1:2:4-Trimethyl-6-pyridone**, 3-cyano- (v. MEYER and HENNING), 1908, A., i, 911.

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**3:4:5-Trimethyl- $\alpha$ -pyrone**, 6-hydroxy- (THOLE and THORPE), 1911, T., 2240.

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**2:3:4-Trimethylpyrrole** and its picrate (PILOTY and THANNHAUSER), 1912, A., i, 736.

**2:3:5-Trimethylpyrrole** (KNORR and HESS), 1911, A., i, 1019.

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**1:2:5-Trimethylpyrrole-3-carboxylic acid** and its ethyl ester, synthesis of (KORSCHUN: KORSCHUN and TRE-FILIEFF), 1904, A., i, 264.

**2:3:5-Trimethylpyrrole-4-carboxylic acid** and its ethyl ester (KNORR and HESS), 1911, A., i, 1019.

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**$\alpha$ :3:4-Trimethylstyrene**,  $\beta$ -chloro- (AUWERS and KÖCKRITZ), 1907, A., i, 402.

**2:4:5-Trimethylstyrene**,  $\beta$ -chloro- (AUWERS and KÖCKRITZ), 1907, A., i, 402.

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**2:3:5-Trimethyltetrahydrofuran**, 3-hydroxy- (DUPONT), 1912, A., i, 290.

**2:5:5-Trimethyltetrahydrofuran** (LOSANITSCH), 1911, A., i, 804.

**4:4:6-Trimethyltetrahydro-1:3-oxazine** and its salts and derivatives (KOHN), 1904, A., i, 932.

**3-Trimethyltetrahydropyridine** and its dibromonitrosoamine (KOENIGS, BERNHART, and IBELE), 1907, A., i, 792.

**4:6:6-Trimethyl- $\Delta^3$ -tetrahydro-2-pyridone** and its additive salts (PICCININI), 1908, A., i, 51.

**4:6:6-Trimethyl- $\Delta^3$ -tetrahydro-2-pyridone**, 3-amino- and 3-hydroxy-, and their platinichlorides (PICCININI), 1908, A., i, 908.

- 1:6:6-Trimethyl- $\Delta^3$ -tetrahydro-2-pyridone-4-carboxylic acid** and its salts and dibromo-derivatives (PICCININI), 1906, A., i, 983.
- 4:6:6-Trimethyl- $\Delta^3$ -tetrahydro-2-pyridone-3-carboxylic acid** and its amide and salts (PICCININI), 1908, A., i, 679.
- 1:2:2-Trimethyltetrahydroquinoline** and its picrate (FREUND and RICHARD), 1909, A., i, 418.
- 2:6:8-Trimethyltetrahydroquinoline**, salts and derivatives of (JONES and EVANS), 1911, T., 337.  
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- Trimethyltetrollic acid.** See Heptinoic acid.
- 3:4:7-Trimethylthiocoumarin** (CLAYTON), 1908, T., 530; P., 26.
- 4:6:7- and 4:6:8-Trimethylthiocoumarin**, and 5-nitro- (CLAYTON and GODDEN), 1912, T., 214.
- Trimethylthionine** and its chloride (KEHRMANN and DUTTENHÖFER), 1906, A., i, 460.
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- $\alpha\alpha\gamma$ -Trimethyltricarballic acid**, preparation of, and its salts and the anhydro-acid (HENSTOCK and SPRANKLING), 1907, T., 354; P., 32.
- 2:4:4-Trimethyltrimethylenimine** and its additive salts, dithiocarbamate, and nitroso-derivative (KOHNE), 1907, A., i, 338.
- Trimethyltrimethylenetriamine** (HOCK), 1903, A., i, 465.  
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- Trimethyltrioxin**, dichloro- (MYLO), 1912, A., i, 335.
- Trimethyluracil**, oxidation of (BEHREND and FRICKE), 1903, A., i, 739; (BEHREND and HUFSCMIDT), 1906, A., i, 310.  
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- 1:4:5-Trimethyluracil**, oxidation of (BREMER), 1911, A., i, 160.
- 1:4:5- and 3:4:5-Trimethyluracils** (KIRCHER), 1912, A., i, 54.
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- 1:3:7-Trimethyluric acid**, degradation of (BILTZ and KREBS), 1910, A., i, 523.  
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- 1:3:7-Trimethylisouric acid**, 5-chloro- (BILTZ), 1911, A., i, 168.
- 5-Trimethylvalerobetaine** and its derivatives (WILLSTÄTTER and KAHN), 1904, A., i, 560.
- 1:3:7-Trimethylxanthine**, salts of, with barium salicylate (AKTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION), 1906, A., i, 715.
- 3:7:8-Trimethylxanthine.** See 8-Methyltheobromine.
- Trimorpholine** and its additive salts, and methiodide and methochloride (WOLFF and MARBURG), 1909, A., i, 15.
- Trinaphthalenesulphohydroxamic acid** (ANGELI, ANGELICO, and SCURTI), 1904, A., i, 311.
- Tri- $\beta$ -naphtholmethylethylamine** and its derivatives (BETTI), 1904, A., i, 581.
- Tri- $\alpha$ -naphthoylhydrazide** (STOLLÉ, MAMPEL, HOLZAPFEL, and LEVERKUS), 1912, A., i, 226.
- Tri- $\alpha$ -naphthylcarbamic acid**, glyceryl ester (NEUBERG and HIRSCHBERG), 1910, A., i, 694.
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- $\alpha\alpha\beta$ -Trinaphthylcarbinol** (SCHMIDLIN and MASSINI), 1909, A., i, 563.
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- Tri- $\alpha$ -naphthylmethane**, bromo-, and iodo- (TSCHITSCHIBABIN), 1911, A., i, 970.
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**Triphenetysulphonium** and its hydrate, chloride, and platinichloride (SMILES and LE ROSSIGNOL), 1906, T., 702; P., 24, 87.

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- Triphenylacetaldehyde** (STAUDINGER and BUCHWITZ), 1910, A., i, 47.
- Triphenylamine and its *o*-carboxylic acid** (GOLDBERG, NIMEROVSKY, and MAAG), 1907, A., i, 621.  
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- Triphenylamine**, amino- (HAEUSSERMANN), 1906, A., i, 910; (EHRENPRESS), 1907, A., i, 453.
- Triphenylaminoguanidine**, preparation of, and action of formic acid on (BUSCH), 1905, A., i, 307.
- 1:4:5-Triphenyl-3:5-endoanilo-4:5-dihydro-1:2:4-triazole** and its additive salts (BUSCH and MEHRTENS), 1906, A., i, 117.
- Triphenylarsine** (PFEIFFER, HELLER, and PIETSCH), 1905, A., i, 164.  
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- Triphenylarsine**, triamino-, and its triacetate (EHRlich, BERTHEIM, and SCHMITZ), 1910, A., i, 452.
- Triphenylarsine oxide**, triamino-, and its salts and triacetyl and tribenzoyl derivatives (MORGAN and MICKLETHWAIT), 1909, T., 1473; P., 212.  
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- Triphenylbenzene**, synthesis of (DELA-ACRE), 1911, A., i, 32.
- s*-Triphenylbenzene** (REICH), 1905, A., i, 35; (v. NIEMENTOWSKI), 1905, A., i, 612; (KNOLL & Co.), 1912, A., i, 960.
- 1:3:5-Triphenylbenzene-2':2'':2'''-tricarboxylic acid** (*phenyltribenzoic acid*), constitution of (MICHAEL), 1906, A., i, 518.  
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- 1:4:5-Triphenyl-3-benzylpyrazoline**, 5-*p*-chloro- (SCHIMETSCHKE), 1906, A., i, 369.
- $\alpha\beta\gamma$ -Triphenyl- $\alpha$ -benzylsulphonepropan- $\gamma$ -one** (POSNER), 1904, A., i, 323.
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- Triphenylbismuthine** (PFEIFFER, HELLER, and PIETSCH), 1905, A., i, 164.
- Triphenylbromosilicane** (LADENBURG), 1907, A., i, 668.
- $\alpha\alpha\delta$ -Triphenylbutadiene** and its bromo-derivative (STAUDINGER and BUCHWITZ), 1910, A., i, 47.
- $\alpha\alpha\alpha$ -Triphenylbutanes**, *n*- and *iso*-, and their trinitro-derivatives (GOMBERG and CONE), 1906, A., i, 822.
- $\alpha\delta\delta$ -Triphenylbutane- $\beta\gamma$ -dicarboxylic acids**, *cis*- and *trans*- (STOBBE and v. VIGIER), 1904, A., i, 673.
- $\alpha\gamma\delta$ -Triphenylbutan- $\beta$ -one**, chloro-, chlorohydroxy-, and chloronitro-derivatives (SCHIMETSCHKE), 1906, A., i, 368.
- $\alpha\delta\delta$ -Triphenylbutan- $\gamma$ -one- $\alpha$ -ol** and its acyl derivatives (GOLDSCHMIEDT and SPITZAUER), 1904, A., i, 64.
- 1:3:4-Triphenyl-6-*tert*-butyldihydropyridazine** (BOON), 1910, T., 1259; P., 94.
- $\alpha\gamma\delta$ -Triphenyl- $\Delta\gamma$ -butylene- $\beta$ -one** (*benzylidenedibenzyl ketone*) and its isomeric (GOLDSCHMIEDT and SPITZAUER), 1904, A., i, 64.  
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- Triphenylbutyrolactone** (PURDIE and ARUP), 1910, T., 1543; P., 199.
- $\alpha\gamma\gamma$ -Triphenyl- $\gamma$ -butyrolactone** (REYNOLDS), 1911, A., i, 861.
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- Triphenylcarbinol**, formation of, from benzophenone (DELANGE), 1904, A., i, 173.  
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- Triphenylcarbinol**, action of hydroxylamine on (MOTHWURF), 1904, A., i, 877.
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- compounds of, with phenylhydrazine and with quinoline (TSCHITSCHIBABIN), 1903, A., i, 88.
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- Triphenylcarbinol**, *o*-amino-, and its chloride, salts, and acetate (v. BAEYER and VILLIGER), 1904, A., i, 898.
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- o*-bromo-, *o*-chloro-, and *di-p*-chloro-*o*- and *p*-bromo-, and their derivatives (GOMBERG and VAN SLYKE), 1911, A., i, 361.
- p*-bromo- (CONE and LONG), 1906, A., i, 424.
- 3:5-*dibromo*-4-hydroxy-, and its -4-acetate (AUWERS and SCHROETER), 1903, A., i, 820.
- 3:5:3':5'-*tetrabromo*-*di-p*-hydroxy-, and its methyl ether (ZINCKE and WOLLENBERG), 1909, A., i, 25.
- p*-trichloro- and *p*-triiodo-, and their chlorides and ethyl ethers (v. BAEYER), 1905, A., i, 282, 358.
- p*-hydroxy-, and its isomeride and diethyl ether (BISTRZYCKI and HERBST), 1904, A., i, 44.
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- 2:4:5-Triphenyldiamidide and its salts (LEY and MÜLLER), 1907, A., i, 730.
- 3:4:6-Triphenyl-1:2-diazine and its dihydro-derivative (JAPP and WOOD), 1905, T., 709; P., 154.
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- 1:3:5-Triphenyl-2:4-dimethylcyclopentane**, synthesis of (ABELL), 1903, T., 367; P., 18.
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- aaa-Triphenylethane** (GOMBERG and CONE), 1906, A., i, 414, 822.  
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- aeε-Triphenyl-Δγ-hexadien-ε-ol** (BAUER), 1905, A., i, 278.
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**1:3:5-Triphenyl-2-methylcyclopentane**, synthesis of (ABELL), 1903, T., 367; P., 18.

**Triphenylmethylphenylsulphone** (v. BAeyer, VILLIGER, and HALLENSLEBEN), 1903, A., i, 812.

**Triphenylmethylphenylsulphone**, *p*-nitro- (v. BAeyer and VILLIGER), 1904, A., i, 309.

**Triphenylmethylphosphinous acid** (FOSSE), 1910, A., i, 292, 451.

**Triphenylmethylphthalimide** (v. MEYER and FISCHER), 1911, A., i, 120.

**Triphenylmethylpiperidine** (v. MEYER and FISCHER), 1911, A., i, 120.

**$\alpha\gamma$ -Triphenyl- $\beta$ -methyl-propenol peroxide and -propenyl benzoate** (KÖHLER), 1907, A., i, 140.

**Triphenylmethylpyrazopyrazine** (MOHR), 1909, A., i, 191.

**2:4:6-Triphenyl-3-methylpyridine** and its hydrochloride and picrate (ABELL), 1903, T., 363; P., 17.

**Triphenylmethylpyridinium bromide** (HANTZSCH and MEYER), 1910, A., i, 238.

**Triphenylmethylpyrrole** (v. MEYER and FISCHER), 1911, A., i, 120.

**Triphenylmethyilsilicane** (MARSDEN and KIPPING), 1908, T., 210; P., 12.

**Triphenylmethylthiocarbamide** (v. MEYER and FISCHER), 1911, A., i, 120.

**Triphenylmethyl-*p*-toluidine**, *p*-chloro- (GOMBERG and CONE), 1906, A., i, 823.

**1:2:3-Triphenyl-4:2- $\alpha$ -naphthaisooxazine** (MAYER), 1904, A., i, 785.

**1:2:3-Triphenyl- $\alpha$ - and - $\beta$ -naphthindoles** (RICHARDS), 1910, T., 979.

**3:4:5-Triphenyl-1- $\beta$ -naphthyl-2:3-dihydro-2-glyoxal-one and -thione** (BRAZIER and McCOMBIE), 1912, T., 2356.

**Triphenyl- $\alpha$ -naphthylquinodimethane** (TSCHITSCHIBABIN), 1908, A., i, 872.

- 3:4:5-Triphenyloxasulphinazole** (Mc-COMBIE and PARKES), 1912, T., 1997.
- 3:4:5-Triphenylisooxazole** (HEIM), 1911, A., i, 718.
- Triphenylparaleucaniline** (v. BAEYER and VILLIGER), 1904, A., i, 787.
- $\alpha\epsilon\epsilon$ -Triphenylpentan- $\gamma$ -one,  $\alpha\beta$ -dibromo-** (KOHLEK), 1907, A., i, 1053.
- $\alpha\beta\gamma$ -Triphenyl- $\Delta\alpha$ -pentenol** and its acetate, benzoate, and peroxides (KOHLEK), 1906, A., i, 753.
- $\alpha\epsilon\epsilon$ -Triphenyl- $\Delta$ -penten- $\gamma\alpha$ -one** and its oxime (KOHLEK), 1907, A., i, 1053.
- Triphenyl-*o*-phenylenediamine** and its hydrochloride (WIELAND and LECHER), 1911, A., i, 569.
- Triphenylphosphine** (PFEIFFER, HILLER, and PIETSCHE), 1905, A., i, 164.
- Triphenylphosphine oxide** and its compounds with acids and salts (PICKARD and KENYON), 1906, T., 264; P., 42.
- Triphenylphosphoryl dichloride** (AUTENRIETH and GEYER), 1908, A., i, 157.
- Triphenylpiperidone** (MAYER), 1904, A., i, 832.  
isomeride of (PETRENKO-KRITSCHENKO and MALACHOFF), 1909, A., i, 961.
- 1:2:6-Triphenylpiperidone-3:5-dicarb-oxylic acid**, ethyl ester (MAYER), 1905, A., i, 429.  
hydrochloride (PETRENKO-KRITSCHENKO and MALACHOFF), 1909, A., i, 960.
- $\alpha\alpha\alpha$ -Triphenylpropane** and *trinitro*- (GOMBERG and CONE), 1906, A., i, 414, 821.
- $\alpha\alpha\alpha$ -Triphenylpropane,  $\beta$ -chloro-** (CONE and ROBINSON), 1907, A., i, 504.
- $\alpha\beta\beta$ -Triphenylpropane, *tri*- and *hexa*-hydroxy-** (LIPPMANN), 1912, A., i, 851.
- $\alpha\beta\gamma$ -Triphenylpropane** (HEIM), 1911, A., i, 718.
- Triphenylpropenol**, benzoyl derivative (KOHLEK), 1904, A., i, 596.
- $\alpha\beta\beta$ -Triphenylpropionic acid** and its amide and nitrile (KOHLEK), 1906, A., i, 429.  
and its esters, and the action of bromine and of acetyl chloride on (KOHLEK and HERITAGE), 1905, A., i, 208.  
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- $\alpha\beta\beta$ -Triphenylpropionic acid,  $\beta$ -hydroxy-**, and its silver salt (PATERNO and CHIEFFI), 1911, A., i, 65.
- $\beta\beta\beta$ -Triphenylpropionic acid** and isomeric  $\alpha$ -cyano-derivatives (FOSSE), 1907, A., i, 764.
- Triphenylpropioiphenone** (KOHLEK and HERITAGE), 1906, A., i, 96.
- Triphenylpropioiphenone, bromo-** (KOHLEK), 1906, A., i, 754.
- $\alpha\alpha\gamma$ -Triphenylpropylene** (PATERNO and CHIEFFI), 1910, A., i, 42.
- $\alpha\beta\gamma$ -Triphenylpropylene,  $\alpha$ -nitro-** (HEIM), 1911, A., i, 718.
- 1:3:5-Triphenylpyrazole** (MOUREU and BRACHIN), 1903, A., i, 581.
- 1:4:5-Triphenylpyrazole** (WISLICENUS and RUTHING), 1911, A., i, 304.
- 1:3:4-Triphenylpyrazolone, 4-*p*-chloro-5-imino-**, and its 1-*p*-bromo-derivative (v. WALTHER and HIRSCHBERG), 1903, A., i, 494.
- 2:4:6-Triphenylpyridine, 3-cyano-** (v. MEYER and IRMSCHER), 1908, A., i, 912.  
3:5-dicyano- (v. MEYER and KLEINSTÜCK), 1908, A., i, 910.
- 2:4:5-Triphenylpyrimidine, 6-amino-** (ATKINSON, INGHAM, and THORPE), 1907, T., 592.
- 4:5:6-Triphenyl-2-pyrone** (RUHEMANN), 1910, T., 459; P., 59.
- Triphenylpyrrole, 3-amino-**, and its benzoyl and carbamide derivatives (ANGELICO), 1905, A., i, 660, 938.  
oximino-, oxidation of (ANGELICO and LABISI), 1910, A., i, 427.
- 1:2:3-Triphenyl-5-pyrrolidone, 4-hydroxy-** (BORSCHKE), 1909, A., i, 956.
- Triphenylpyrrylmethane** (KHOTINSKY and PATZEWITCH), 1909, A., i, 830.
- Triphenylsemicarbazide (*s*-carbanilido-diphenylhydrazide)** (ACREE), 1903, A., i, 862.
- Triphenylsemicarbazide (*s*-diphenyl-carbamylphenylhydrazide)** and its derivatives (v. MEYER and NICOLAUS), 1911, A., i, 121.
- Triphenyl-silicane** and -silicol and its acetyl derivative and **trisulphonic acid** and its barium salt and its trinitro derivative (LADENBURG), 1907, A., i, 668.
- Triphenylsilicol** (MARSDEN and KIPPING), 1908, T., 208.  
action of fuming sulphuric acid on (KIPPING and MARTIN), 1909, T., 489; P., 66.  
sodium derivative of (SCHLENK, RENNING, and RACKV), 1911, A., i, 596.
- Triphenylsilicyl chloride** (MARSDEN and KIPPING), 1908, T., 208.
- Triphenylstibine** (PFEIFFER, HELLER, and PIETSCHE), 1905, A., i, 164.

- Triphenylstibine**, hydroxynitrate, hydroxysulphate and hydroxychloride (MORGAN, MICKLETHWAIT, and WHITBY), 1909, P., 302; 1910, T., 36.
- iodocyanide (HANTZSCH and HIBBERT), 1907, A., i, 498.
- sulphate, and *trinitro*-, dihydroxide and dichloride (MAY), 1910, T., 1958.
- sulphide (KAUFMANN), 1908, A., i, 1031.
- chemical and physiological properties of (KAUFMANN), 1910, A., ii, 984.
- Triphenylstibine**, *tri-m-amino*-, and its hydrochloride (MORGAN and MICKLETHWAIT), 1911, T., 2292; P., 274.
- tri-p-amino*-, and *trinitro*- (MAY), 1910, P., 142.
- Triphenylstibinedihydroxidetrissulphonic acid** and its salts (MORGAN and MICKLETHWAIT), 1911, T., 2296.
- Triphenyltelluronium salts** (LEDERER), 1910, A., i, 732; 1911, A., i, 857.
- 3:4:5-Triphenyl-2:3:4:5-tetrahydro-2-oxazolone** (CROWTHER and McCOMBIE), 1912, P., 315.
- $\alpha\beta\gamma$ -**Triphenyl- $\alpha$ -thiol-benzyl- and -ethyl-propan- $\gamma$ -ones** (POSNER), 1904, A., i, 323.
- 2:3:6-Triphenylthiol-quinol** and its diacetyl derivative and -quinone (POSNER), 1904, A., i, 1030.
- 3:4:5-Triphenyl-*o*-, *m*-, and *p*-tolyl-2:3-dihydro-2-glyoxal-ones and -thiones** (BRAZIER and McCOMBIE), 1912, T., 2355.
- Triphenyl-*p*-tolylethylene** (STAUDINGER and KON), 1911, A., i, 879.
- Triphenyl-*p*-tolylmethane**, *p*-hydroxy-, and its acetyl derivative (BISTRZYCKI and GYR), 1904, A., i, 315.
- Triphenyl-*p*-tolylquinodimethane** (TSCHITSCHIRABIN), 1908, A., i, 873.
- 2:4:6-Triphenyl-1:3:5-triazine** (*triphenylcyanidine*), preparation of (FRANCIS and DAVIS), 1904, T., 260; P. 21.
- 2:4:6-Triphenyl-1:3:5-triazine**, 5'-chloro-2'-hydroxy- (HUGHES and TITHERLEY), 1912, T., 221; P., 6.
- tri-p*-hydroxy- (DIELS and LIEBERMANN), 1903, A., i, 868.
- 1:3:4-Triphenyl-1:2:5-triazole** (*triphenylosotriazole*) and its tribromo- and *p*-mono- and *tri*-nitro-derivatives (BILTZ and WEISS), 1903, A., i, 59.
- 1:2:5-Triphenyl-1:3:4-triazole**, *di-p*-bromo- and *di-m*-nitro-derivatives (STOLLÉ and WEINDEL), 1906, A., i, 708.
- 1:2:5-Triphenyl-1:3:4-triazole**, 2:5-*di-p*-nitro- (STOLLÉ and BAMBACH), 1906, A., i, 711.
- 1:3:5-Triphenyltriazoles**, chloro-derivatives, synthesis of (v. WALTHER and KRUMBIEGEL), 1903, A., i, 661.
- 1:3:4-Triphenyl-1:2:4-triazolone** (BUSCH and WALTER), 1903, A., i, 523; (BUSCH and RUPPENTHAL), 1911, A., i, 87.
- Triphenyltribenzylmelamine** (v. MEYER and NÄBE), 1911, A., i, 122.
- Triphenyltrimethylmelamine** (v. MEYER and NÄBE), 1911, A., i, 122.
- 4:4':4''-Triphenyltriphenylcarbinol** (SCHLENCK and WEICKEL), 1909, A., i, 792.
- 4:4':4''-Triphenyltriphenylmethyl and its peroxide** (SCHLENCK, WEICKEL, and HERZENSTEIN), 1910, A., i, 236.
- chloride (SCHLENCK and WEICKEL), 1909, A., i, 792.
- Triple point** (SAUREL), 1903, A., ii, 15; (JOUQUET), 1911, A., ii, 869.
- Triplite** from Östergötland (HAMBERG), 1904, A., ii, 744.
- from a new Swedish locality (NORDENSKIÖLD), 1905, A., ii, 174.
- Triplodibenzylideneacetone tetrasulphide** (FROMM and McKEE), 1908, A., i, 991.
- Tripropaldehydehexaethylacetalamine and its derivatives** (WOHL and GROSSE), 1908, A., i, 49.
- Tripropylamine salts** (DEHN), 1912, A., i, 241.
- hydrochloride and acetyl derivative (DEHN), 1912, A., i, 834.
- hydriodide, compound of thiocarbamide and (ATKINS and WERNER), 1912, T., 1990.
- Tripropylammonium nitrite** (RÅY and RAKSHIT), 1912, T., 613; P. 41.
- Tripropylarsine** (DEHN and WILLIAMS), 1908, A., i, 721.
- s-Triisopropylbenzene**, aluminium chloride compound, combination of, with hydrogen chloride and with benzene (GUSTAVSON), 1905, A., i, 334, 696.
- s-Triisopropylbenzenesulphonic acid**, magnesium salt (GUSTAVSON), 1905, A., i, 334, 696.
- Tripropylcarbinol** (*decyl alcohol*) (GRIGNARD), 1903, A., i, 455.
- Tri-*l*-propylenediamine cobalt iodide** (TSCHUGAEFF and SEKOLOFF), 1909, A., i, 138.
- Tripropylenediaminechromium salts** (PFEIFFER and HAIMANN), 1903, A., i, 464.



- Tri-*n*-propylphosphine oxide** and its compounds with acids and salts (PICKARD and KENYON), 1906, T., 264; P., 42.
- Tripropylquinoline** and its picrate (VAN HOVE), 1907, A., i, 174.
- Tripropylthiocarbamide** (DELÉPINE), 1911, A., i, 23.
- Tripropylurethane** (v. BRAUN), 1903, A., i, 14.
- Tripyridinechromium**, trifluoro- and its hydrate (COSTĂCHESCU), 1912, A., i, 493.
- Tripyridineferrie thiocyanate** (BARBIERI and PAMPANINI), 1911, A., i, 225.
- Tripyridinium cupric thiocyanate** (CALZOLARI), 1910, A., i, 614.
- Tripropyphosphoric acid**. See under Phosphorus.
- Triquinolineferrie thiocyanate** (BARBIERI and PAMPANINI), 1911, A., i, 225.
- Triquinoyl** (HENLE), 1907, A., i, 144.
- Triresorcinoylboric acid** (COHN), 1911, A., i, 641.
- Trisaccharides**, hydrolysis of, by dilute acids (WÖGRINZ), 1903, A., ii, 721.
- Trisalcylboric acid** (COHN), 1911, A., i, 640.
- Trisazo-dyes** from 2:4-diaminoacetanilide (FARBENFABRIKEN VORM. F. BAYER & Co.), 1904, A., i, 700.
- Trisbenzeneazophenol** (VIGNON), 1908, A., i, 1025.  
and its acetate (GRANDMOUGIN and FREIMANN), 1907, A., i, 664.  
and its benzoate and sulphonic acid (HELLER and NÖTZEL), 1907, A., i, 800; (GRANDMOUGIN and FREIMANN), 1907, A., i, 986.  
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benzenesulphonyl ester (GRANDMOUGIN and FREIMANN), 1908, A., i, 1023.
- 2:4:6-Trisbenzeneazoresorcinol** and its diacetate (ORNDORFF and RAY), 1907, A., i, 800; 1910, A., i, 597.
- Trisbisdiazomethanetetracarboxylic acid**, so-called (CURTIUS, DARAPSKY, and MÜLLER), 1907, A., i, 359.
- Tris-*m*-dimethoxyphenylsulphonium** and its chloride and platinichloride (SMILES and LE ROSSIGNOL), 1908, T., 757.
- 1:2:3-Tris-dimethylaminoanilo-4:5-diphenylcyclopentene** (RUHEMANN and NAUNTON), 1912, T., 45.
- Trisilicoxyloylsilicic acid** (KHOTINSKY and SEREGENKOFF), 1908, A., i, 1032.
- Trisindandione**, diammonium derivative, and bromo-, dibromo-, bromohydroxy-, hydroxy-, and their derivatives (HANTZSCH and FISCHER), 1912, A., i, 873.
- Trismercuri-bis-amido-sulphonic acid**, potassium hydrogen salt (HOFMANN, BIESALSKI, and SÖDERLUND), 1912, A., ii, 765.
- Tris-*m*-methoxytolylsulphonium** platinichloride (SMILES and LE ROSSIGNOL), 1908, T., 756.
- Tris-*p*-methoxytolylsulphonium** and its platinichloride (SMILES and LE ROSSIGNOL), 1908, T., 759.
- Tris-5-methoxy-*m*-xylyl-2-sulphonium** chloride and platinichloride (SMILES and LE ROSSIGNOL), 1908, T., 762.
- 2:4:6-Tris- $\alpha$ -naphthaleneazoresorcinol**, and its diacetyl derivative (ORNDORFF and RAY), 1910, A., i, 597.
- Triphenylmalononitrile** (HESSLER), 1908, A., i, 182.
- Trisquinhydroneoxonium** hydrosulphide (RICHTER), 1911, A., i, 135.
- Tristearin**, occurrence of, in beef and mutton tallow (BÖMER, SCHEMM, and HEIMSOOTH), 1907, A., i, 820.  
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- Tris-tetradecylketen** (BISTRZYCKI and LANDTWING), 1910, A., i, 87.
- Tristilbeneacetone** anhydride (v. LIPPMANN and FRITSCH), 1905, A., i, 443.
- Tris-*o*-tolueneazophenol** and its acetyl derivative (GRANDMOUGIN, GUISAN, and FREIMANN), 1907, A., i, 987.
- Tris-*m*- and -*p*-tolueneazophenols** and their acyl derivatives (GRANDMOUGIN and FREIMANN), 1908, A., i, 1023.
- 2:4:6-Tris-*o*-tolueneazoresorcinol** (ORNDORFF and RAY), 1910, A., i, 597.
- Tristriazomethyl isocyanurate** (FORSTER and MÜLLER), 1910, T., 1064; P., 112.
- 2:4:6-Tristyrylpyridine** and its derivatives (KOENIGS and v. BENTHEIM), 1906, A., i, 37.
- o*-Trisulphidobenzoic acid** and its thioanhydride (HINSBERG), 1910, A., i, 554.
- Tritane**, hydroxy-. See Triphenylmethane, hydroxy-.
- Tritan series** (v. LIEBIG, HERB, and KEIM), 1908, A., i, 445; (v. LIEBIG), 1908, A., i, 540.
- Tritan-2:2'-ether**, 2:4:2':4'-tetrahydroxy-, acetyl and dimethyl derivatives of (v. LIEBIG), 1909, A., i, 98.

- Tritancaroxylic acids.** See Triphenylmethanecaroxylic acids.
- Tritanic acid.** See Triphenylacetic acid.
- Tritanol**, *diamino-2:4-dihydroxy-* and *dinitro-2:4-dihydroxy-* (v. LIEBIG and HERB), 1908, A., i, 451.
- 3:5-dihydroxy-*, phenol ether, and **Tritane ether**, *3:5-dihydroxy-* (v. LIEBIG), 1905, A., i, 783.
- Tritanolactone**, *2:4-* and *2:6-dihydroxy-* (v. LIEBIG), 1907, A., i, 1045.
- 2:4-* and *3:5-dihydroxy-*, and the ether of the *3:5*-compound and its salts (v. LIEBIG), 1905, A., i, 781.
- isomeric *dihydroxy-* and *2:3:4-trihydroxy-* (v. LIEBIG), 1908, A., i, 541.
- nitro-2:4-dihydroxy-*, and its acetyl derivative (v. LIEBIG and HERB), 1908, A., i, 451.
- Tritanolactonesulphonic acid**, *2:4-dihydroxy-*, and its derivatives (v. LIEBIG and HERB), 1908, A., i, 449.
- Tritanol-5-sulphonic acid**, *2:4-dihydroxy-* (v. LIEBIG and HERB), 1908, A., i, 450.
- Trithienyl**, action of hydrogen peroxide on (LANFRY), 1912, A., i, 1012.
- Trithienylamine** (OPOLSKI), 1906, A., i, 34.
- Trithioacetaldehydes**,  $\alpha$ -,  $\beta$ -, and  $\gamma$ - (DRUGMAN and STOCKINGS), 1904, P., 116.
- Trithioaldehydes**, isomeric, transformations of (SUYVER), 1905, A., i, 741.
- Trithioallophanic acid** (FROMM and v. GÖNCZ), 1907, A., i, 872.
- Trithiocarbodiglycollic acid** and its ethyl ester and salts (HOLMBERG), 1905, A., i, 324.
- Trithiocarbodilactic acid** (HOLMBERG), 1905, A., i, 325.
- Trithiocarboglycollanilide**, ethyl ester. See Ethyltrithiocarbonatoacetanilide.
- Trithio-3:4-dimethylbenzaldehyde** (GATTERMANN), 1906, A., i, 591.
- Trithioformaldehyde** (DRUGMAN and STOCKINGS), 1904, P., 116; (REYCHLER), 1906, A., i, 5.
- formation of (VANINO), 1908, A., i, 318.
- Trithiolphenylphosphine oxide**, selenide, and sulphide (MICHAELIS and LINKE), 1907, A., i, 1102.
- Trithionates.** See under Sulphur.
- Trithio-oxyarsenic acid** and its salts (McCAY and FOSTER), 1904, A., ii, 253, 813.
- Trithiophosphoric acid.** See under Phosphorus.
- Triticonucleic acid** (LEVENE and LA FORGE), 1911, A., i, 96.
- Triticonucleic acid**, cytosine from (WHEELER and JOHNSON), 1903, A., i, 527.
- p*-Tritolylacetic acid** (SCHMIDLIN and HODGSON), 1903, A., i, 171.
- Tri-*p*-tolylacetoneitrile** (MOTHWURF), 1904, A., i, 879.
- Tri-*p*-tolylamine** and its additive salts and bromo-derivative (WIELAND), 1907, A., i, 1077.
- tribromide* and *tribromo-* (WIELAND and WECKER), 1910, A., i, 243.
- mono-*, *hemi-* and *di-per-* chlorates (HOFMANN, METZLER, and HÖBOLD), 1910, A., i, 370.
- mmp*-Tritolylamine** (SCHOLL, SEER, and TRITSCH), 1911, A., i, 559.
- Tri-*p*-tolylcarbinol** and its nitro-derivatives, acetate, and salts (MOTHWURF), 1904, A., i, 879.
- and its ethyl ether (TOUSLEY and GOMBERG), 1905, A., i, 44.
- action of amines on (GREEN and WOODHEAD), 1911, A., i, 481.
- reactions of (NORRIS), 1907, A., i, 1034.
- Tri-*p*-tolylcarbinol**, *triamino-*, methyl ether (v. BAeyer and VILLIGER), 1904, A., i, 787.
- Tritolylcarbothiol**, *triamino-* (LAMBRECHT), 1907, A., i, 258.
- Tritolyleyanidine.** See *2:4:6-Tri-*p*-tolyl-1:3:5-triazine*.
- Tri-*p*-tolylmethane** and its  $\omega$ -amino- and  $\omega$ -haloid derivatives (TOUSLEY and GOMBERG), 1905, A., i, 43.
- and *hexanitro-*, and *-sulphonic acid*, sodium salt (MOTHWURF), 1904, A., i, 879.
- Tri-*p*-tolylmethane**,  $\omega$ -chloro-, aluminium chloride (MOTHWURF), 1904, A., i, 879.
- Tri-*p*-tolylmethyl peroxide** (GOMBERG), 1904, A., i, 489.
- Tri-*p*-tolylmethyl-amine**, *-aniline*, and ethyl ether (MOTHWURF), 1904, A., i, 879.
- Tri-*p*-tolylmethyl-aniline** and *-p-toluidine* (TOUSLEY and GOMBERG), 1905, A., i, 44.
- $\beta$ -Tri-*p*-tolylmethylhydroxylamine** and its acetyl derivative (MOTHWURF), 1904, A., i, 879.
- Tri-*o*-tolylxytripropylamine**, *trihydroxy-* and its salts and oxide (BOYD and KNOWLTON), 1909, T., 1806; P., 235.
- Tritolylphosphoryl dichlorides**, *o-*, *m-*, and *p-* (AUTENRIETH and GEYER), 1908, A., i, 157.
- Tri-*p*-tolylstibine** (PFEIFFER, HELLER, and PIETSCH), 1905, A., i, 164.
- Tri-*o*-tolylsulphonylhydroxylamine** (HAGA), 1908, A., i, 871.

- Tri-*o*- and -*p*-tolyltelluronium salts (LEDERER), 1911, A., i, 857.
- 2:4:6-Tri-*p*-tolyl-1:3:5-triazine (FRANCIS and DAVIS), 1904, T., 260 ; P. 21.
- 1:3:5-Tritolyltriazoles, synthesis of (v. WALTHER and KRUMBIEGEL), 1903, A., i, 661.
- Tri[trimethylcarbonatogalloyl]glycerol (FISCHER and FREUDENBERG), 1912, A., i, 472.
- Triumfetta rhomboidea* bark. See Fibre, "Nzonogwi."
- Trixanthyl derivatives, new (SILBERRAD and ROY), 1908, P., 205.
- s-Trixanthylbenzene-2:4:6-tricarboxylic acid, 3:6:9:3':6':9':3'':6'':9''-nonahydroxy-, and its dodecaboro- and dodecaiido-derivatives and their salts (SILBERRAD and GLOVER), 1906, T., 1808 ; P., 252.
- Trommer's sugar reaction (SCHAEER), 1903, A., ii, 344.
- Trona from the region of Lake Chad (COURTET), 1905, A., ii, 173.
- Tropacocaine, fluorescence of (REICHARD), 1907, A., ii, 914.
- reactions of (REICHARD), 1908, A., ii, 643.
- Tropæolin, reactions of (SCHUMACHER-KOPP), 1904, A., ii, 101.
- Tropane, 3-bromo-, and its salts (WILLSTÄTTER), 1903, A., i, 361.
- 3-chloro- (WILLSTÄTTER and VERAGUTH), 1905, A., i, 544.
- Tropeines, preparation and properties of some new (JOWETT and HANN), 1906, T., 357 ; P., 61.
- relation between chemical constitution and physiological action in the (JOWETT and PYMAN), 1906, P., 317 ; 1907, T., 92 ; 1909, T., 1020 ; P., 165.
- halogen-substituted (WOLFFENSTEIN and ROLLE), 1908, A., i, 282.
- Tropic acid, chloride of (WOLFFENSTEIN and MAMLOCK), 1908, A., i, 281.
- Tropidine, synthesis of (WILLSTÄTTER), 1903, A., i, 359.
- Tropilen, constitution of (KÖTZ and ROSENBUSCH), 1911, A., i, 318.
- Tropine and its additive salts (SCHMIDT and KIRCHER), 1908, A., i, 675.
- synthesis of, from tropidine (WILLSTÄTTER), 1903, A., i, 360 ; (LADENBURG), 1903, A., i, 431.
- and  $\psi$ -tropine, configuration of (BARROWCLIFF and TUTIN), 1909, T., 1966 ; P., 256.
- dissociation constant of (LUNDÉN), 1910, A., i, 698.
- Tropine and its derivatives, affinity values of (VELEY), 1908, P., 280 ; 1909, T., 1.
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- d*- $\alpha$ -bromo-** (FISCHER and SCHEIBLER), 1908, A., i, 858.
- dibromo-** (KÖHLER), 1909, A., i, 940.
- tert.-Valerylacetamide** (WIDMAN and WAHLBERG), 1911, A., i, 702.
- isoValerylacetic acid**, ethyl ester, homologues of (LOCQUIN), 1904, A., i, 552.
- methyl ester and copper derivative** (BOUVEAULT and BONGERT), 1903, A., i, 143.
- tert.-Valerylacetic acid** (WAHLBERG), 1911, A., i, 707.
- tert.-Valerylacetimino-ether** hydrochloride and platinichloride (WIDMAN and WAHLBERG), 1911, A., i, 702.
- isoValerylacetone** and its copper derivative (BOUVEAULT and BONGERT), 1903, A., i, 142.
- tert.-Valerylacetoneitrile**. See Pinacolin,  $\omega$ -cyano-.
- Valerylalanine**,  $\alpha\delta$ -dibromo- (FISCHER and SUZUKI), 1904, A., i, 771.
- isoValeryl-alanines and -glycine**,  $\alpha$ -bromo- (FISCHER and SCHENKEL), 1907, A., i, 685.
- isoValerylaminooaceto-*p*-phenetidine**,  $\alpha$ -bromo- (CHEMISCHE WERKE FORM. H. BYK), 1911, A., i, 323.
- isoValeryl-*p*-aminoacetophenone**,  $\alpha$ -bromo- (REMFERY), 1911, T., 625; P., 72.
- 4-isoValerylamino-5- $\alpha$ -bromoisovaleryl-oxy-1-phenyl-3-methylpyrazole**,  $\alpha$ -bromo- (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1912, A., i, 136.
- o-Valerylamino-*p*-cresol** and its benzoate (AUWERS and EISENLOHR), 1909, A., i, 916.
- 4-isoValerylamino-5-ethoxy-1-phenyl-3-methylpyrazole** (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1912, A., i, 136.
- isoValeryl- $\alpha$ -amino-*n*-nonoylvaline**,  $\alpha$ -bromo- (HOPWOOD and WEIZMANN), 1911, T., 1581.
- 4-isoValerylamino-1-phenyl-2:3-dimethyl-5-pyrazolone** and  $\alpha$ -bromo- (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1912, A., i, 136.
- 4-isoValerylamino-1-phenyl-3-methylpyrazole**, 5-chloro- (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1912, A., i, 136.
- 4-isoValerylamino-1-phenyl-3-methyl-5-pyrazolone** (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1912, A., i, 136.
- 4-isoValerylamino-5-isovaleryloxy-1-phenyl-3-methylpyrazole** (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1912, A., i, 136.
- isoValerylcamphorcarboxylic acid**, ethyl ester (BRÜHL), 1903, A., i, 65.
- isoValerylcarbamide**,  $\alpha$ -bromo-, preparation of (KNOLL & Co.), 1907, A., i, 1017.
- as a narcotic** (VAN DER EECKHOUT), 1908, A., ii, 55.
- $\alpha$ -chloro-**, preparation of (KNOLL & Co.), 1908, A., i, 399.
- $\alpha$ -iodo-**, preparation of (KNOLL & Co.), 1908, A., i, 769.
- isoValerylcyanamide**,  $\alpha$ -hydroxy- (CLEMMENSEN and HEITMAN), 1909, A., i, 775.
- isoValeryldiantipyryne** (ECCLES), 1903, A., i, 289.
- isoValerylethylamide** (EINHORN), 1908, A., i, 610.
- isoValerylglycine**, *d*- $\alpha$ -bromo-, and *d*- $\alpha$ -hydroxy-, zinc salt, and their optical properties (FISCHER and SCHEIBLER), 1908, A., i, 858.
- isoValerylcyclohexene** and its semicarbazone (DARZENS and ROST), 1910, A., i, 856.
- isoValerylhydrazides**, conversion of, into heterocyclic compounds (STOLLÉ and HILF), 1904, A., i, 695.

- isoValerylhydrindone* (THIELE and WEITZ), 1910, A., i, 855.
- isoValerylideneacetone*. See Diisohexenyl ketone.
- 5-Valerylidene-3-phenylrhodanic acid** (BUTSCHER), 1911, A., i, 333.
- isoValeryl-lactamide* (EINHORN), 1908, A., i, 611.
- isoValerylmesitylene* (KLAGES and STAMM), 1904, A., i, 303.
- 4-isoValerylmethylamino-1-phenyl-2-3-dimethyl-5-pyrazolone** (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1912, A., i, 516.
- isoValeryloxybenzoic acid, o- $\alpha$ -iodo-* (CHEMISCHE FABRIK VON HEYDEN), 1910, A., i, 485.
- isoValerylphenylacetylene* (ANDRÉ), 1910, A., i, 563.
- isoValerylphenylhydrazine* (BAIDAKOWSKY and SLEPAKA), 1903, A., i, 441; (PONZIO), 1906, A., i, 66.
- $\alpha$ -tert-Valerylpropionic acid and its ethyl ester** (WAHLBERG), 1911, A., i, 707.
- isoValerylquinine,  $\alpha$ -bromo-*, preparation of (KNOLL & Co.), 1908, A., i, 1004.
- isoValerylisovaleric acid, ethyl ester* (ZELTNER), 1908, A., i, 760.
- isoValeryl-d-valine, l- $\alpha$ -bromo-* (FISCHER and SCHEIBLER), 1908, A., i, 958.
- Valin and Valyl**, definition of (FISCHER, MATSUBARA, and HILPERT), 1906, A., i, 561.
- dl-Valinamide** (KOENIGS and MYLO), 1909, A., i, 87.
- Valine**, active, derivatives of (FISCHER and SCHEIBLER), 1908, A., i, 957.  
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- d-Valine** picronolate (LEVENE and VAN SLYKE), 1912, A., i, 682.
- i-Valine**, derivatives of (FISCHER and SCHENKEL), 1907, A., i, 685.
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- isoValine**. See  $\alpha$ -Methylbutyric acid, l- $\alpha$ -amino-.
- trans-Valine anhydride** (FISCHER and SCHEIBLER), 1908, A., i, 958.
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- d-Valylglycine and l-Valyl-d-valine** and its methyl ester and their hydrochlorides (FISCHER and SCHEIBLER), 1908, A., i, 958.
- Valyl-leucine anhydride** (KRAUSE), 1909, A., i, 87.
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- Vanadinite** in the copper mines of Bena de Padru, near Ozieri, Sardinia (LOVISATO), 1903, A., ii, 735.  
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- Vanadiselenious acid and its salts** (PRANDTL and LUSTIG), 1905, A., ii, 395; 1907, A., ii, 477.
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- Vanaditungstic acids**, complex, salts (ROGERS), 1903, A., ii, 376.
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- Vanadyl bromide** (RUFF and LICKFETT), 1911, A., ii, 988.
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- Hexa-aquovanadium dichloro- and dibromotetra-aquochromium sulphates** (BJERRUM and HANSEN), 1909, A., ii, 739.
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- spectra of (BALY), 1904, A., ii, 3.
- and krypton, refraction and dispersion of, and their relation to those of helium and argon (C. and M. CUTHBERTSON), 1909, A., ii, 105.
- dispersion of (C. and M. CUTHBERTSON), 1910, A., ii, 561.
- critical constants and orthobaric densities of (PATTERSON, CRIPPS, and WHYTLAW-GRAY), 1912, A., ii, 843.
- density of (MOORE), 1908, T., 2181; P., 272.
- molecular weight of (WATSON), 1910, T., 833; P., 70.
- solubility of, in water (V. ANTROPOFF), 1910, A., ii, 409.
- spectrophotometric estimation of (MOUREU and LEPAPE), 1911, A., ii, 1134.

(*o*-Xylene, *Me*:*Me*=1:2; *m*-xylene, *Me*:*Me*=1:3; *p*-xylene, *Me*:*Me*=1:4.)

**Xenon**, attempt to estimate the relative amounts of krypton and, in atmospheric air (RAMSAY), 1903, A., ii, 476.

**Xenotime** from Brazil (HUSSAK and REITINGER), 1903, A., ii, 553.

composition of (BRÖGGER), 1906, A., ii, 37; (TSCHERNIK), 1907, A., ii, 363.

variations of the absorption bands of a crystal of, in a magnetic field (BECQUEREL), 1906, A., ii, 317.

correlation between the variations of the absorptive bands of a crystal of, in a magnetic field and the magnetic rotatory polarisation (BECQUEREL), 1906, A., ii, 421.

absorption spectra of, and the changes they undergo at the temperatures of liquefaction and solidification of hydrogen (BECQUEREL and ONNES), 1908, A., ii, 338.

**Xeronic acid** (KÜSTER and HAAS), 1906, A., i, 694.

**Xeronic anhydride** (FICHTER and OBLADEN), 1910, A., i, 87.

**Xeronic-*p*-tolil** (FICHTER and OBLADEN), 1910, A., i, 88.

**Xylamine** and its hydriodide (ROUX), 1903, A., i, 463.  
salts (ROUX), 1904, A., i, 291.

**Xylan**, diastatic hydrolysis of (SEILLIÈRE), 1906, A., ii, 101.

**Xylene**, action of carbon tetrachloride on, in presence of aluminium chloride (BÖESEKEN), 1905, A., i, 424.  
thiocyanates (STRZELECKA), 1909, A., i, 791.

***o*-Xylene derivatives** (STALLARD), 1906, T., 808; P., 104; (DIEPOLDER), 1909, A., i, 786; 1911, A., i, 853; (CROSSLEY and WREN), 1911, T., 2341; P., 307; (CROSSLEY and MORRELL), 1911, T., 2345; P., 307.  
nitro-derivatives (CROSSLEY and RENOUF), 1908, P., 58.

*trinitro*-derivatives (CROSSLEY and RENOUF), 1908, T., 646.

***o*-Xylene**,  $\omega$ -amino- and  $\omega$ -nitro-, and their salts (KONOWALOFF), 1905, A., i, 762.

3-bromo-, and its sulphonation (STALLARD), 1906, T., 808; P., 104.

chlorobromo-, chlorobromonitro-, and chloronitro-derivatives, formation of (CROSSLEY), 1904, T., 266; P., 21.

3:5-*di*hydroxy-, and its dibenzoate, keto-bromide, and diazo-compound (SIMON), 1904, A., i, 406.

***o*-Xylene**, 3:5-*di*hydroxy-, and its di- and tri-bromo-derivatives (SIMON), 1906, A., i, 961.

$\omega\omega'$ -*di*iodo- (KNOLL & Co.), 1911, A., i, 432.

3-nitro-, and 3:6-*dinitro*- (CROSSLEY and WREN), 1911, T., 2342; P., 307.

3- and 4-nitro-, 3:4-, 3:6-, 4:5-, 4:6- (or 3:5-)*dinitro*-, 3:4:5-, 3:4:6-*tri*-nitro- and preparation of 3:5-*di*-chloro-, from 4:6-*dinitro*- (CROSSLEY and RENOUF), 1909, T., 202; P., 26.

4-nitro-, action of caustic alkalis and air on (GREEN, DAVIES, and HORSFALL), 1907, T., 2080.

4:6-*dinitro*- (CROSSLEY and MORRELL), 1911, T., 2349.

***m*-Xylene**, reaction of, with ethyl diazoacetate (BUCHNER and DELBRÜCK), 1908, A., i, 87.

triozonide of (HARRIES and WEISS), 1906, A., i, 228.

***m*-Xylene**, 6-bromo- and 6-chloro-2:4:5-*trinitro*- and 6-iodo-5-nitro- (BLANKSMA), 1906, A., i, 11.

$\omega$ -*tetrabromo*- (THIELE, GÜNTHER, and LEOPOLD), 1906, A., i, 750.

5-bromo-2:4:6-*trinitro*- (BLANKSMA), 1907, A., i, 123.

$\omega$ -*tetrachloro*- (BIELECKI), 1908, A., i, 424.

5-chloro-2:4:6-*trinitro*- (JACKSON and SMITH), 1904, A., i, 803.

4:5-*di*hydroxy- (DIEPOLDER), 1911, A., i, 853.

4:6-*di*hydroxy-. See Xylorcinol.

*s*-iodo-, *s*-iodoso-, *s*-iodoxy- and *s*-iodonium compounds, and their salts (WILLGERODT and SCHMIERER), 1905, A., i, 425.

$\omega\omega'$ -*di*iodo-, and *tri*iodo- (KNOLL & Co.), 1911, A., i, 432.

*s*-nitro-, nitration of (BLANKSMA), 1906, A., i, 11.

2:4- and 4:6-*dinitro*- (ERRERA and MALTESE), 1904, A., i, 307.

2:5- and 4:5-*dinitro*- (BLANKSMA), 1909, A., i, 296.

$\omega$ -4- and  $\omega$ -6-*dinitro*- (SOCIÉTÉ CHIMIQUE DES USINES DU RHÔNE), 1912, A., i, 176.

2-nitro-4-cyano-, and 6-nitro-4-cyano- (BORSCHKE), 1912, A., i, 181.

2:5:6-*trinitro*-4-nitroamino- (BLANKSMA), 1903, A., i, 164.

***p*-Xylene**, absorption spectrum of, in the ultra-violet (MIES), 1909, A., ii, 776.

interaction of, with ethyl diazoacetate (BUCHNER and SCHULZE), 1911, A., i, 50.

(*o*-Xylene, *Me*:*Me*=1:2; *m*-xylene, *Me*:*Me*=1:3; *p*-xylene, *Me*:*Me*=1:4.)

*p*-Xylene, dinitro-derivatives (BLANKSMA), 1910, A., i, 661.

disulphoxide (KNOEVENAGEL and POLLACK), 1908, A., i, 971.

*p*-Xylene,  $\omega$ -hexabromo- (THIELE and BALHORN), 1904, A., i, 491.

2-bromo-3:5-dinitro-, 5-nitro-2:3-diamino-, and 5-nitro-2:3-dinitroso- (FRIES and NOLL), 1912, A., i, 660.

2-iodo- (ULLMANN), 1904, A., i, 726.

$\omega\omega'$ -diiodo- (KNOLL & Co.), 1911, A., i, 432.

$\omega$ -nitro-, nitration of (KONOWALOFF and SENTSCHIKOVSKY), 1904, A., i, 657.

$\omega$ -dinitro-, and its metallic derivatives (PONZIO), 1906, A., i, 735.

diazobenzene derivative of (PONZIO and CHARRIER), 1908, A., i, 582.

2:3:5-trinitro-, and its reactions (BLANKSMA), 1905, A., i, 426.

3:5-dinitro-2-nitroamino-, and its salts (ZINCKE and ELLENBERGER), 1905, A., i, 486.

*o*-nitronitroso- (MEISENHEIMER and PATZIG), 1906, A., i, 643.

**Xylenes**, heat of combustion of (RICHARDS and JESSE), 1910, A., ii, 269.  
nitrotoluenes and toluidines, freezing mixtures of (FISCHER), 1910, A., i, 309.

action of sulphur on (ARONSTEIN and VAN NIEROP), 1903, A., i, 158, 329.

*o*- and *p*-, bromo-, action of dilute nitric acid on (KONOWALOFF), 1904, A., i, 657.

*m*- and *p*-, trinitro-derivatives, crystallography of (JAEGER), 1906, A., i, 642.

*o*-, *m*-, and *p*-, absorption spectra of (MIES), 1910, A., ii, 563.

latent heats of evaporation of (BROWN), 1905, T., 267; P., 75.

bromination of (ATKINSON and THORPE), 1907, T., 1695.

nitration of (KONOWALOFF), 1905, A., i, 762; (GUREWITSCH), 1905, A., i, 763.

bromohydroxy-derivatives, and their acetates and compounds with bases (AUWERS, KIPKE, SCHRENK, and SCHRÖTER), 1906, A., i, 262.

six isomeric tribromo- (JAEGER and BLANKSMA), 1906, A., i, 9.

$\omega$ -nitro- (WISLICHENUS and WREN), 1905, A., i, 284.

*m*-Xylene-aluminium chloride, additive and fermentative properties of (GUSTAVSON), 1903, A., i, 470, 805.

*p*-Xyleneazobenzene and its derivatives (WILLGERODT and LINDENBERG), 1905, A., i, 551.

*o*-4-Xyleneazo-*p*-cresol and its acetate and *O*-acetylhydrazo-derivative (AUWERS, HIRT, and V. DER HEYDEN), 1909, A., i, 438.

4-*m*-Xyleneazo-*p*-cresol and its ethyl ether (JACOBSON and FABIAN), 1909, A., i, 854.

*m*-Xylene-4'-azo-3-cyano- and -3-carboxy- $\beta$ -naphthol-6-sulphonic acids, sodium salts (LANGE), 1908, A., i, 300.

*m*-Xyleneazo- $\beta\beta$ -dinaphthylamine (FISCHER and STRAUS), 1908, A., i, 222.

*m*-Xyleneazoeugenol, methyl ether of (COLOMBANO), 1907, A., i, 1091.

Xyleneazoeugenols, *as-m*-, and *-p*-, and their acetyl derivatives (ODDO and PUXEDDU), 1906, A., i, 992.

*m*-Xyleneazoglutacononic acid, ethyl ester, *m*-xylylhydrazone (HENRICH, REICHENBURG, NACHTIGALL, THOMAS, and BAUM), 1910, A., i, 901.

4-*m*-Xyleneazo-5-hydroxy-3-methylisoxazole (BÜLOW and HECKING), 1911, A., i, 245.

4-*m*-Xyleneazo-5-hydroxy-3-methylpyrazole (BÜLOW and HECKING), 1911, A., i, 405.

*m*-Xyleneazo- $\alpha$ -hydroxynaphthoic acid and its sodium salt (SIRCAR and WATSON), 1912, A., i, 1037.

4-*m*-Xyleneazo-5-hydroxy-1-phenyl-3-methylpyrazole (BÜLOW and HECKING), 1911, A., i, 405.

4-*m*-Xyleneazo-3-methyl-5-pyrazolone and its 1-benzoyl derivative (BÜLOW and SCHAUB), 1908, A., i, 705.

*as-m*-Xyleneazo- $\beta$ -naphthol (V. NIE-MENTOWSKI), 1903, A., i, 133.

*m*-Xyleneazo-*o*-cresinol, 5-bromo- (ORTON and EVERATT), 1908, T., 1020.

4-*m*-Xyleneazo-3-phenylisoxazolone (MEYER), 1911, A., i, 341.

*m*-Xylene-4-azoresorcinol, 5-bromo- (ORTON and EVERATT), 1908, T., 1019.

*m*-Xyleneazosalicilic acid and its sodium salt (SIRCAR and WATSON), 1912, A., i, 1037.

Xyleneazo-. See also Xylylazo-.

Xylenediazonium, 3:5-dichloro-, perchloride and platinumchloride, and perchloride and its compounds with dimethylaniline and  $\beta$ -naphthol (ZINCKE and ELLENBERGER), 1905, A., i, 486.



(*o*-Xylene, *Me:Me*=1:2; *m*-xylene, *Me:Me*=1:3; *p*-xylene, *Me:Me*=1:4.)

- Xylenediazonium**, nitro-, and its compound with dimethylaniline, and perbromide (ZINCKE and ELLENBERGER), 1905, A., i, 486.
- Xylenedicarboxylic acid**, *d*initro-, bromide of (WILLSTÄTTER and KUBLI), 1909, A., i, 899.
- p*-Xylene-2-sulphinic acid, alkaloidal salts, and their rotatory power (HILDITCH), 1908, T., 1621.
- Xylenesulphinic acids**, *o*-, *m*-, and *p*-, preparation of (KNOEVENAGEL and KENNER), 1908, A., i, 971.
- p*-Xylenesulphinic anhydride, preparation of (KNOEVENAGEL and POLACK), 1908, A., i, 971.
- m*-Xylene-4-sulphonacetic acid, amide, nitrile, and thioamide of (TRÖGER and HILLE), 1905, A., i, 336.
- m*-Xylene-6-sulphonamide, 1-bromo- (JUNGHANH), 1903, A., i, 22.
- m*-Xylene-4-sulphonethenylaminooxime (TRÖGER and VOLKMER), 1905, A., i, 356.
- m*-Xylene-4-sulphonic acid, 6-nitro-, oxidation products of (KARSLAKE and BOND), 1909, A., i, 231.
- 2:6-*d*initro-, derivatives of (KARSLAKE and MORGAN), 1908, A., i, 410.
- m*-Xylene-5-sulphonic acid, 4:6-*d*amino-, and its salts (JUNGHANH), 1903, A., i, 23.
- 4-bromo-, and its salts, amide, anilide, and chloride (JUNGHANH), 1903, A., i, 22.
- 4-hydroxy-, and its salts (JUNGHANH), 1903, A., i, 23.
- p*-Xylene-2-sulphonic acid, alkaloidal salts, and their rotatory power (HILDITCH), 1908, T., 1621.
- m*-Xylene-4-sulphonyl-*p*-aminobenzene-azo- $\beta$ -naphthol (MORGAN and MICKLETHWAIT), 1905, T., 1308.
- 2-*p*-Xylenesulphonyldiphenyliodonium chloride and platinumchloride (WILLGERODT and PLOCKSTIES), 1912, A., i, 257.
- m*-Xylene-4-sulphonyl-*p*-nitroaniline and -*p*-phenylenediamine and its diazotisation (MORGAN and MICKLETHWAIT), 1905, T., 1307; P., 222.
- Xylenol**, bromo-derivatives of (CROSSLEY and LE SUEUR), 1903, T., 127.
- o*-3-Xylenol, 4:5-*d*ibromo- (CROSSLEY and SMITH), 1912, P., 333.
- o*-4-Xylenol, 5-amino-, acetates, and acetyl derivatives (DIEPOLDER), 1911, A., i, 853.
- 5-amino-, and its hydrochloride, and 5-nitro-, and its potassium, and sodium salts (DIEPOLDER), 1909, A., i, 786.
- m*-2-Xylenol and its bromo-, bromo-nitro-, bromonitroso-, nitro-, and nitroso-derivatives, and its methyl ether (AUWERS and v. MARKOVITS), 1908, A., i, 629.
- oxidation of (AUWERS and MARKOVITS), 1905, A., i, 219.
- methyl and ethyl ethers (GATTERMANN), 1908, A., i, 33.
- m*-4-Xylenol and its methyl ether, condensations of, with phthalic acid and its derivatives (BENTLEY, GARDNER, and WEIZMANN), 1907, T., 1634; P., 215.
- chloroacetyl derivative (FRIES and FINCK), 1909, A., i, 42.
- benzoate (GOLDSCHMIEDT), 1907, A., i, 923.
- m*-4-Xylenol, 6-amino- (BAMBERGER and REBER), 1907, A., i, 644.
- 6-bromo- (NOELTING), 1903, A., i, 338.
- 2:6-*d*ibromo-5-nitro- and its acetate and 5-nitro- (FRIES and KANN), 1907, A., i, 614.
- 5-chloro-, preparation of (ORTON and KING), 1911, T., 1191.
- 6-nitro-, derivatives of (MALTESE), 1907, A., i, 912.
- m*-5-Xylenol from dehydracetic acid (CARLINFANTI), 1910, A., i, 732.
- dialcohol of (AUWERS), 1907, A., i, 612.
- methyl ether, sulphonation of (SMILES and LE ROSSIGNOL), 1908, T., 761.
- methyl and ethyl ethers (GATTERMANN), 1908, A., i, 33.
- m*-5-Xylenol, *s*-*tr*initro- (KNECHT), 1905, A., i, 53.
- and its potassium salt (KNECHT and HIBBERT), 1904, A., i, 871.
- p*-Xylenol ethylene ether and its dialdehyde (GATTERMANN), 1908, A., i, 35.
- methyl and ethyl ethers, action of nitric acid on (DECKER and SOLONINA), 1905, A., i, 198.
- diphenylhydrazone of the dialdehyde from (ANSELMINO), 1903, A., i, 122.
- p*-Xylenol, 3:6-*d*ibromo-4-amino-, and 3:6-*d*ibromo-5-nitro-, and its acetyl derivative (ZINCKE and BREITWEISER), 1911, A., i, 216.
- Xylenols**, coumarins from (CLAYTON), 1908, T., 2018.
- bromo- (CROSSLEY and SMITH), 1912, P., 332.
- 1:2:4- and 1:3:4-, bromo-derivatives and their compounds with bases (AUWERS, KIPKE, SCHRENK, and SCHRÖTER), 1906, A., i, 261.

(*o*-Xylene,  $Me:Me=1:2$ ; *m*-xylene,  $Me:Me=1:3$ ; *p*-xylene,  $Me:Me=1:4$ .)

**Xylenol-alcohol** (MANASSE), 1903, A., i, 28.

*o*- and *m*-Xylenolcinnamic acids. See  $\alpha$ -3:4- and  $\alpha$ -2:4-Dimethylphenoxy-cinnamic acids.

**Xylenoglycollic acids.** See Dimethylphenoxyacetic acids.

*m*-5-Xylenolsulphonic acid, dinitro-, potassium salt (KNECHT and HIBBERT), 1904, A., i, 871.

**Xylenyldimethylcarbamide**, nitro- (FISCHER and HESS), 1904, A., i, 196.

$\alpha$ -*m*-Xylic acid. See 2:4-Dimethylbenzoic acid.

**Xylidine** telluri-bromides and -chlorides (GUTBIER, FLURY, and EWALD), 1912, A., i, 639.

*o*-3-Xylidine, absorption spectrum of (PURVIS), 1910, T., 1552.

oxalyl derivative (TAUSSIG), 1904, A., i, 663.

*o*-3-Xylidine, 4:5-, 4:6-, and 5:6-dinitro-, and their acetyl derivatives (CROSSLEY and MORRELL), 1911, T., 2349; P., 307.

*o*-4-Xylidine, 3:5-dichloro- (CROSSLEY), 1904, T., 278.

5-nitro- (DIEPOLDER), 1909, A., i, 786.

3:4(5:6)-, and 3:5-dinitro-, and their acetyl derivatives (CROSSLEY and MORRELL), 1911, T., 2350; P., 307.

*m*-Xylidine, acetyl derivative. See Aceto-*m*-xylidine.

*m*-2-Xylidine, absorption spectrum of (PURVIS), 1910, T., 1552.

*m*-4-Xylidine and its bromo-derivatives and their perbromides and acetyl derivatives (FRIES), 1906, A., i, 646.

and its condensation product with acetaldehyde, absorption spectra of (PURVIS), 1910, T., 644; P., 56.

aldol bases from, and their derivatives (EDWARDS, GARROD, and JONES), 1912, T., 1383; P., 163.

phosphorus compounds (LEMOULT), 1904, A., i, 380.

hydrobromide *perbromide*, bromo- (FRIES), 1904, A., i, 571.

nitrite (WALLACH), 1907, A., i, 602.

hydrogen phosphite (LEMOULT), 1906, A., i, 493.

*m*-4-Xylidine, 5-chloro- (ORTON and KING), 1911, T., 1188.

3:5:6-trichloro- (MANNINO and DI DONATO), 1908, A., i, 826.

2- and 4-nitro- and their acyl derivatives (ERRERA and MALTESE), 1904, A., i, 307.

*m*-4-Xylidine, 6-nitro-, preparation and methylation of (MORGAN and MICKLETHWAIT), 1907, T., 363.

oxidation of (ERRERA and MALTESE), 1906, A., i, 84.

2:6-dinitro- and its benzoyl derivative (MALTESE), 1909, A., i, 466.

*m*-5-Xylidine, preparation of (WILLGERODT and SCHMIERER), 1905, A., i, 425.

*p*-Xylidine, derivatives of (SCHULTZ and PETENY), 1907, A., i, 1075.

**Xylidines**, action of dichloroacetic acid on (HELLER and LEYDEN), 1908, A., i, 218.

isomeric, *di*- and *tri*-bromo-derivatives (JAEGER and BLANKSMA), 1906, A., i, 10.

*o*-3-, *o*-4-, and *p*-, diazoamino compounds from (VIGNON and SIMONET), 1905, A., i, 397.

*m*-4-Xylidine-5-sulphonic acid and 6-nitro- and their salts (JUNGHAN), 1903, A., i, 22.

*m*-4-Xylidine-6-sulphonic acid, diazotised, action of bleaching powder on (MAUÉ), 1904, A., i, 458.

*p*-Xylidinesulphonic acid, nitro-, and its reactions (BLANKSMA), 1905, A., i, 426.

**Xylidinesulphonic acids**, preparation of (JUNGHAN), 1903, A., i, 473.

*m*-Xylidinoacetonitrile (KNOEVENAGEL and KLUCKE), 1904, A., i, 989.

3-*as*-*m*-Xylidino-5:7-dimethyloxindole and its bromo-derivative and 3':5'-

Xylidino-4:6-dimethyloxindole (HELLER and LEYDEN), 1908, A., i, 218.

7-*m*-Xylidino-10-*m*-xylylsafranil (HELLER), 1912, A., i, 917.

*m*-4-Xylidylcamphoformineaminecarb-  
oxylic acid and its *m*-4-xylidine  
salt (TINGLE and BATES), 1911, A., i, 55.

**Xylitone**, synthesis of an isomeride of (KNOEVENAGEL and SCHWARTZ), 1906, A., i, 963.

Pinner's, and its derivatives (KNOEVENAGEL and BEER), 1906, A., i, 965.

*iso*Xylitones,  $\alpha$ - and  $\beta$ -, and their semicarbazones (KNOEVENAGEL and BLACH), 1906, A., i, 964.

**Xyloidins** (JENTGEN), 1912, A., i, 416.

1:3-Xylo-4:5-methylenequinone and its polymeride and 2:6-dibromo- (FRIES and KANN), 1907, A., i, 613.

*m*-Xylonitrile, 2-nitro- (KALLE & Co.), 1912, A., i, 126.

(*o*-Xylene, *Me:Me*=1:2; *m*-xylene, *Me:Me*=1:3; *p*-xylene, *Me:Me*=1:4.)

- m*-Xyloquinol**, ketonic, and its ethyl ether, transformations of (BAMBERGER), 1907, A., i, 516, 517, 521; (BAMBERGER and FREI), 1907, A., i, 519.
- 2-methyl and 2-ethyl ethers and 4-chloroimino- and 4-imino- (BAMBERGER), 1907, A., i, 518.
- p*-Xyloquinol** and its ethers (BAMBERGER), 1907, A., i, 516, 518, 521; (BAMBERGER and FREI), 1907, A., i, 519; (BAMBERGER and BRUN), 1907, A., i, 520.
- formation of, from *m*-xylylhydroxylamine (BAMBERGER), 1903, A., i, 84.
- p*-Xyloquinol**, *dibromo*-, diacetate of (ZINCKE and BREITWIESER), 1911, A., i, 216.
- 3:5:6-*tribromo*- (ZINCKE and BREITWIESER), 1911, A., i, 216.
- m*-Xylo- $\psi$ -quinol** and imino- (BAMBERGER), 1903, A., i, 83.
- o*-3:4-Xyloquinone**, 3-phenylhydrazone of (DIEFOLDER), 1909, A., i, 787.
- o*-4:5-Xyloquinone** (DIEFOLDER), 1909, A., i, 787.
- p*-Xyloquinone**, action of magnesium methyl iodide on (BAMBERGER and BLANGEY), 1911, A., i, 883.
- $\beta$ -lactone of (STAUDINGER and BEREZA), 1911, A., i, 461.
- p*-Xyloquinone**, *dihydroxy*- (FICHTER and WILLMANN), 1904, A., i, 678.
- diacetate of (FICHTER and WEISS), 1908, A., i, 659.
- Xylorcinol** and its dibenzoyl and bromo-derivatives (LUTHER), 1907, A., i, 128.
- ethyl ether, transformations of (BAMBERGER), 1907, A., i, 521.
- mono- and di-ethyl ethers of (BAMBERGER), 1907, A., i, 516, 518, 521; (BAMBERGER and BRUN), 1907, A., i, 520.
- methyl, ethyl, propyl, and *n*-butyl ethers (BAMBERGER and FREI), 1907, A., i, 520.
- dimethyl ether (BAMBERGER), 1907, A., i, 518.
- and its ethers, action of hydroxylamine on (BAMBERGER and RUDOLF), 1907, A., i, 606.
- ketonic, action of phenylhydrazine on (BAMBERGER and REBER), 1907, A., i, 643.
- Xylose derivatives**, synthesis of (RYAN and EBRILL), 1908, A., i, 716.
- estimation of (HERZOG and HÜRTH), 1909, A., ii, 625.
- l*-Xylose**, formation of, from *d*-glyceronic acid (SALKOWSKI and NEUBERG), 1903, A., i, 7; (KÜSTER), 1903, A., i, 402.
- Xylosediphenylhydrazone** (TOLLENS and MAURENBRECHER), 1905, A., i, 262.
- Xylose- $\beta$ -naphthylhydrazone** (HILGER and ROTHENFUSSER), 1903, A., ii, 187.
- Xylose-*o*-nitrophenylhydrazone** (RECLAIRE), 1909, A., i, 421.
- Xylose-*m*-nitrophenylhydrazone** (RECLAIRE), 1908, A., i, 1014.
- Xylosephenylmethylhydrazone** and its melting point (MÜTHER and TOLLENS), 1904, A., i, 224.
- m*-Xyloylacrylic acid** (KÓZNIEWSKI and MARCHLEWSKI), 1906, A., i, 759.
- 2-*m*-Xyloylbenzoic acid**, 5'-amino-, and 5'-chloro- (BADISCHE ANILIN- & SODA-FABRIK), 1911, A., i, 885.
- 3-(*m*-4)-Xyloypicolinic acid** (HALLA), 1911, A., i, 1021.
- Xylyl bromides**, magnesium derivatives of (CARRÉ), 1909, A., i, 544.
- o*-Xylyl dichloro-orthophosphate**, *trichloro*- (ANSCHÜTZ and SCHROEDER), 1906, A., i, 506.
- ethyl ether (V. BRAUN), 1910, A., i, 479.
- m*-Xylyl dichloro-orthophosphate**, *trichloro*- (ANSCHÜTZ, SCHROEDER, WEBER, and ANSPACH), 1906, A., i, 506.
- ethyl and ethylene ethers, bromo-derivatives of (STOERMER and GÖHL), 1903, A., i, 848.
- methyl ether and its tribromo- and trinitro-derivatives (BLANKSMA), 1903, A., i, 164.
- p*-Xylyl sulphide** (MARTYNOWICZ), 1911, A., i, 196.
- o*- and *p*-Xylyl ethers** (ZELTNER and TARASSOFF), 1910, A., i, 316; (PAWLOWSKY), 1911, A., i, 442.
- iodide (PAWLOWSKY), 1911, A., i, 442.
- disulphide* (STRZELECKA), 1911, A., i, 196.
- m*-Xylylacetic acid**, transformation of pinonic acid into, and methyl ester (BARBIER and GRIGNARD), 1909, A., i, 301.
- 8-Xylylacetic acid**, ethyl ester (CARRÉ), 1910, A., i, 620.
- 5-Xylylacridines**, *m*- and *p*-, and their picrates (SCHMID and DECKER), 1906, A., i, 306.
- Xylylaldehyde** and its derivatives (SAVARIAU), 1908, A., i, 189.



(*o*-Xylene, *Me*:*Me*=1:2; *m*-xylene, *Me*:*Me*=1:3; *p*-xylene, *Me*:*Me*=1:4.)

**Xylyldaldoximes** (SCHOLL and KAGER), 1903, A., i, 254.

*m*-Xylylallylsulphone and its dichloride (TRÖGER and HILLE), 1903, A., i, 807.

**4-*m*-Xylylaminobenzoic acid**, 2-amino- and 2-nitro- (DELÉTRA and ULLMANN), 1904, A., i, 271.

**4-*m*-Xylylaminosuccino-2:4-dimethylphenylimide** and nitroso- (WARREN and GROSE), 1912, A., i, 961.

**o-4-, *m*-4-, and *p*-5-Xylylammonium** osmichloride (GUTBIER and WALBINGER), 1911, A., i, 191.

platinibromide (GUTBIER, BAURIEDEL, and OBERMAIER), 1911, A., i, 33.

*as-m*-Xylylaniline, *o*-hydroxy-, and its *N*-acetyl derivative (ANSELMINO), 1908, A., i, 259.

**2:4-Xylylanthranilic acid** (ULLMANN and BADER), 1907, A., i, 843.

*m*-Xylyl-5-arsinic acid, 4-amino- (BENDA), 1910, A., i, 148.

*p*-Xylyl-5-arsinic acid, 2-amino- (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), 1910, A., i, 532.

**3:4-*m*-Xyylaziminobenzoic acid** (DELÉTRA and ULLMANN), 1904, A., i, 271.

*m*-Xylylazoacetoacetic acid, ethyl ester, and its benzoylhydrazone (BÜLOW and SCHAUB), 1908, A., i, 705.

*as-m*-Xylylazoformaldoxime (BUSCH and WOLBRING), 1905, A., i, 494.

*p*-Xylyl-2-azoimide, 3:5-dinitro- (FRIES and NOLL), 1912, A., i, 660.

**Xylylazo-**. See also Xyleneazo-.

*p*-Xylylbenzylidenehydrazine (WILLGERODT and LINDENBERG), 1905, A., i, 550.

*o*-, *m*-, and *p*-Xylyl  $\alpha$ -bromopropyl ketones (KUNCKELL), 1912, A., i, 432.

*m*-Xylylbromopropylsulphone (TRÖGER and HILLE) 1903 A., i, 807.

*o*-, *m*-, and *p*- $\alpha$ -Xylyl- $\Delta^{\alpha}$  butylenes, and their dibromides and  $\alpha$ -chloro- $\beta$ -bromo- (KUNCKELL), 1912, A., i, 432.

**Xylyl butyl ketones**, *m*- and *p*-, and their oximes and semicarbazones (LAYRAUD), 1906, A., i, 433.

*m*-Xylylcarbamide, action of nitrous acid on (HAAGER and DOHT), 1906, A., i, 577.

*m*-Xylyl-4-carbimide (HAAGER and DOHT), 1906, A., i, 577.

*p*-Xylyltrichloromethylcarbinol and its acetate and benzoate (DINESMANN), 1905, A., i, 645.

**Xylyldesoxyn** and its oxidation (NASTUKOFF), 1907, A., i, 413.

**Xylyldiazobisacetoximes**, *m*- and *p*- (BRESLER, FRIEDEMANN, and MAI), 1906, A., i, 321.

*o*-, *m*-, and *p*-Xylyl- $\alpha\alpha$ -dimethylacetophenones (HALLER and BAUER), 1911, A., i, 726.

*o*- and *m*-Xylyldimethylethylamines (HALLER and BAUER), 1911, A., i, 726.

*o*-, *m*-, and *p*-Xylyldimethylethylcarbinols (HALLER and BAUER), 1911, A., i, 726.

**4-*m*-Xylyldioxatriazine-5-carboxylic acid**, ethyl ester (JOVITSCHITSCH), 1907, A., i, 99.

*o*-Xylylene bromide, syntheses with (SCHOLTZ and WOLFRUM), 1910, A., i, 771.

cyanide, syntheses with (HINSBERG), 1910, A., i, 486.

condensation of ethyl oxalate with (WISLICENUS and PENNDORF), 1910, A., i, 560.

oxide (WILLSTÄTTER and VERAGUTH), 1907, A., i, 303.

*m*-Xylylene, derivatives of (AUTENRIETH and BEUTTEL), 1910, A., i, 61.

bromide, action of, on primary, secondary, and tertiary amines, and on potassium cyanate and thiocyanate (HALFPAAP), 1903, A., i, 578.

*p*-Xylylene, derivatives of (AUTENRIETH and BEUTTEL), 1910, A., i, 61.

cyanide, condensation of ethyl oxalate with (WISLICENUS and PENNDORF), 1910, A., i, 560.

glycol, monoethyl ether of (AUTENRIETH and BEUTTEL), 1910, A., i, 60.

**5-*m*-Xylyleneazo-1-*m*-xylyl-6-pyridazone-3-carboxylic acid** (HENRICH, REICHENBURG, NACHTIGALL, THOMAS, and BAUM), 1910, A., i, 901.

*o*-Xylyleneconhydrinium salts (SCHOLTZ), 1911, A., i, 327.

**Xylylenediamine**, hydroxy-derivatives, *N*-acyl derivatives of (EINHORN, BISCHKOPFF, SZELINSKI, SCHUPP, LADISCH, and MAURMAYER), 1906, A., i, 247.

*m*-Xylylene-4:6-diamine, monoacyl derivatives. action of nitrous acid on (MORGAN, MICKLETHWAIT, and COUZENS), 1906, T., 1295; P., 240.

**Xylylenediaminecarboxylic acid**, *o*-hydroxy-, *N*-dichloroacetyl derivative of (EINHORN and MAURMAYER), 1906, A., i, 251.

*o*-Xylylenediisamylammonium bromide and iodide (SCHOLTZ and WOLFRUM), 1910, A., i, 773.

(*o*-Xylene, *Me*:*Me*=1:2; *m*-xylene, *Me*:*Me*=1:3; *p*-xylene, *Me*:*Me*=1:4.)

- o*-Xylylenediisoamylidiamine (SCHOLTZ and WOLFRUM), 1910, A., i, 773.
- m*-Xylylene-dianiline and -*o*- and -*p*-ditoluidines, tribromo-, *p*-hydroxy-, acetyl derivatives of (AUWERS and BONDY), 1904, A., i, 1052.
- Xylylenedianilines, *o*- and *m*-, tribromo-hydroxy-, *O*- and *N*-monoacetyl derivatives of (AUWERS, ANSELMINO, and RICHTER), 1904, A., i, 738.
- m*-Xylylenedianthranilic acid and its salts (HALFPAAP), 1903, A., i, 578.
- Xylylenediketohydrindene and its di-oxime, phenylhydrazones, and poly-meride (FECHT), 1907, A., i, 906.
- m*-Xylylene-4:5-dimethyldiamine and its derivatives (FISCHER and RÖMER), 1906, A., i, 540.
- m*-Xylylene-4:6-dimethyldiamine, pre-paration of, and the action of diazo-compounds on, and its dinitroso-amine (MORGAN and CLAYTON), 1906, T., 1055; P., 174.
- m*-Xylylene-*as*-dimethyl-4:6-diamine and the action of diazonium salts on, and its benzenesulphonyl, benzoyl, and azo- $\beta$ -naphthol derivatives (MORGAN and MICKLETHWAIT), 1907, T., 365; P., 28.
- Xylylenediphtalimide, hydroxy- (TSCHERNIAC), 1903, A., i, 490.
- o*-Xylylenedipropylammonium bromide (SCHOLTZ and WOLFRUM), 1910, A., i, 773.
- o*-Xylylenedipyridinium ferrichloride (SCHOLTZ), 1910, A., i, 97.
- m*-Xylylenediurethane (HALFPAAP), 1903, A., i, 579.
- Xylylenefluorene (FECHT), 1907, A., i, 906.
- m*-Xylylenemethyl-4:6-diamine and the action of diazonium salts on (MORGAN and MICKLETHWAIT), 1907, T., 363; P., 28.
- Xylylenepentamethylenexylylenediam-ine (SCHOLTZ and WOLFRUM), 1910, A., i, 773.
- o*-Xylylenestilbazolinium salts (SCHOLTZ), 1911, A., i, 327.
- o*-Xylylenesulphone (AUTENRIETH and BRÜNING), 1903, A., i, 273.
- o*-Xylylenetetrahydroquinolonium brom-ide, iodide and picrate of (SCHOLTZ and WOLFRUM), 1910, A., i, 773.
- m*-Xylylenetrimethyl-4:6-diamine, and the action of diazonium salts on, and its nitrosoamine and benzenesulphonyl derivative (MORGAN and MICKLETHWAIT), 1907, T., 366; P., 28.
- o*-Xylylene-*m*- and -*p*-xylylenedipiperid-inium salts (SCHOLTZ), 1911, A., i, 327.
- m*-Xylylene-*p*-xylylenedipiperidinium salts (SCHOLTZ), 1911, A., i, 326.
- $\alpha$ -Xylylethyl alcohol, *BBB*-trichloro- (SA-VARIAU), 1908, A., i, 188.
- s*-Xylylethyl alcohol and its acetate and phenylurethane (CARRÉ), 1910, A., i, 620.
- 2-*m*-4-Xylyl-3-ethylisoindolinone, 3-hydroxy- (KUHARA and KOMATSU), 1911, A., i, 207.
- m*-Xylylglyciny ethyl urethane (FRE-RICHS and BREUSTEDT), 1903, A., i, 18.
- $\beta$ -*m*-Xylylhydantoin (FRERICHS and BREUSTEDT), 1903, A., i, 18.
- o*-4-Xylylhydrazine and its hydrochlor-ide (PADOA and GRAZIANI), 1910, A., i, 510.
- m*-5-Xylylhydrazine hydrochloride (PADOA and GRAZIANI), 1910, A., i, 778.
- p*-Xylylhydrazine and its additive salts (PLANCHER and CARAVAGGI), 1905, A., i, 298; (WILLGERODT and LIN-DENBERG), 1905, A., i, 550.
- 4-*m*-Xylylhydrazinoacetic acids, *s*- and *as*- (BUSCH and MEUSSDÖRFFER), 1907, A., i, 348.
- m*-Xylylhydrazonocyanoacetic acid, ethyl ester, and amide and acetyl derivatives (WEISSBACH), 1903, A., i, 542.
- as*-*m*-Xylylhydroxylamine, transfor-mations of (BAMBERGER), 1903, A., i, 84; 1907, A., i, 516, 517, 518.
- m*-Xylylindigotin, bromo-derivatives (BADISCHE ANILIN- & SODA-FABRIK), 1904, A., i, 1020.
- o*- and *m*-4- and *p*-2-Xylylmethylallyl-carbinols (MATSCHEVITSCH), 1911, A., i, 961.
- o*-Xylylmethylaniline (v. BRAUN), 1910, A., i, 506.
- p*-Xylylmethylcarbinol (2-ethylol-1:4-dimethylbenzene) (KLAGES and KEIL), 1903, A., i, 554.
- 2-*m*-4-Xylyl-3-methylisoindolinone, 3-hydroxy- (KUHARA and KOMATSU), 1911, A., i, 207.
- 3:5-Xylylmethylnitroamine, 4-bromo-2:6-*d*-nitro- and 6-bromo-2:4-*d*-nitro- (BLANKSMA), 1906, A., i, 11.
- 1-Xylyl-2-methylpyrrolidone-2-carb-oxylic acids, *o*-, *m*-, and *p*-, and their esters, amides, aminoximes, and nitriles (KÜHLING and FALK), 1905, A., i, 372.

(*o*-Xylene, *Me:Me*=1:2; *m*-xylene, *Me:Me*=1:3; *p*-xylene, *Me:Me*=1:4.)

*m*-Xylylnaphthylamine (KNOLL & Co.), 1912, A., i, 345.

*v*-*m*-Xylynitrosoamine, *N*-acetyl derivative, and its compound with  $\alpha$ -naphthol (JACOBSON and HUBER), 1908, A., i, 299.

*m*-*p*-Xyloxybenzoic acid (ULLMANN and ZLOKASOFF), 1905, A., i, 598.

*m*-Xylyl phenoxymethyl ketone and its oxime and sulphonic acid (STOERMER and ATENSTÄDT), 1903, A., i, 41.

*o*-3-, *m*-4-, and *p*-Xylylphthalamides (KUHARA and KOMATSU), 1911, A., i, 207.

*as*- and *s-o*-3-, *m*-4-, and *p*-Xylylphthalimides (KUHARA and KOMATSU), 1911, A., i, 207.

$\beta$ -Xylylpropionic acid (GATTERMANN), 1906, A., i, 591.

$\alpha$ -Xylylpropionic acids, 2:4-, 2:5-, and 3:4-,  $\alpha$ -amino-, and their nitriles, hydrochlorides of (JAWELOFF), 1906, A., i, 427.

3-(*m*:4)-Xylyl pyridyl ketone and its picrate (HALLA), 1911, A., i, 1021.

3-*m*-Xylylrhodanic acid and its condensation with aldehydes (ANDREASCH and ZIPSER), 1905, A., i, 931.

Xylylsulphon-. See Xylenesulphon-.

*p*-Xylylsulphone (MARTYNOWICZ), 1911, A., i, 196.

*p*-Xylylsulphoxide (MARTYNOWICZ), 1911, A., i, 196.

*o*-Xylyltartronic acid, methyl and ethyl esters (GUYOT and ESTEVA), 1909, A., i, 237.

*m*-Xylyldithiobiuret and *m*-Xylylthiouret hydriodide (FROMM and SCHNEIDER), 1906, A., i, 657.

*m*-Xylylthiohydantoic acid (JOHNSON), 1903, A., i, 581.

*m*-Xylyl- $\psi$ -thiohydantoin and its acetyl derivative (JOHNSON), 1903, A., i, 581.

*m*-Xylyl-5-thiolacetic acid (KALLE & Co.), 1912, A., i, 453.

*p*-Xylyl-2-thiolacetic acid, 4-chloro- (KALLE & Co.), 1912, A., i, 770.

*m*-4-Xylylthiosulphonic acid, *p*-phenylenediamine salt (TRÖGER and VOLKMER), 1905, A., i, 89.

*m*-Xylyl-*p*-toluidine, *o*-amino-. See *m*-Methylbenzyl-*p*-toluidine, 6-amino-.

## Y.

**Yam.** See *Dioscorea batatas*.

**Yanگونin**, **Yanгонic acid** and its acetyl derivative, and **Yanгонol** and its benzoyl derivative (WINZHEIMER), 1908, A., i, 805.

**Yeast** (VAN HEST), 1904, A., ii, 278.

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some constituents of (HINSBERG and ROOS), 1904, A., ii, 760.

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- Yeast**, influence of the chemical constitution of the nitrogenous food material on the fermenting power of (PRINGSHEIM), 1907, A., ii, 44.
- life of, after fermentation (KAYSER and DEMOLON), 1909, A., ii, 823.
- separation of the life and ferment action of (BOKORNY), 1906, A., ii, 880.
- reducing properties of (ROSENTHALER), 1910, A., ii, 1089; (CHOWRENKO), 1912, A., ii, 972.
- reduction of furfuraldehyde by (LINTNER and V. LIEBIG), 1911, A., ii, 816.
- degradation of nitrogenous substances by (SCHWARZ), 1911, A., ii, 640.
- action of alkali salts on (PAULESCO), 1904, A., ii, 580.
- action of the salts of the alkaline earths on (PAULESCO), 1904, A., ii, 633.
- influence of carbohydrates on the relations of the gas-exchange in (KOLLEGORSKY and ZASSOUCHINE), 1904, A., ii, 68.
- sensitising action of fluorescent substances in (V. TAPPEINER, KÜRZMANN, and LOCHER), 1908, A., i, 239.
- influence of formaldehyde on the energy of increase, the fermentation energy, and the duration of generation of different varieties of (HIRSCH), 1906, A., ii, 42.
- action of metallic salts on (BOKORNY), 1912, A., ii, 1201.
- behaviour of cultivated varieties of, in composite nutrient solutions (HENNEBERG), 1908, A., ii, 416.
- can betaine be regarded as a source of nitrogen for? (STANĚK and MISKOVSKY), 1908, A., ii, 416.
- poisonous action of formic acid on (HENNEBERG), 1906, A., ii, 479.
- action of, on proteins (BOKORNY), 1903, A., ii, 230.
- formation of plasma protein by (EHRlich), 1911, A., ii, 1122.
- action of sea-salt or sugar on (LINDER), 1912, A., ii, 1200.
- action of sodium fluoride on (ARTHUS and GAVELLE), 1904, A., ii, 279.
- action of sodium selenite on the production of carbon dioxide from (KORSAKOFF), 1910, A., ii, 989.
- toxic action of various substances on (BOKORNY), 1906, A., ii, 480.
- adaptation of, to sulphurous acid (GIMEL), 1906, A., ii, 477.
- Yeast**, action of, on tartaric acid (KARCZAG), 1912, A., ii, 973.
- food-value of (VÖLTZ and BAUDREXEL), 1911, A., ii, 215.
- auto-digestion of some varieties of (SCHENCK), 1905, A., ii, 547.
- end-products of the auto-digestion of (KUTSCHER and LOHMANN), 1903, A., ii, 670, 737.
- proteolysis of (VANDEVELDE), 1912, A., ii, 588.
- utilisation of, in the human body (VÖLTZ and BAUDREXEL), 1911, A., ii, 304.
- mode of utilisation of ternary carbon by (MAZÉ), 1904, A., ii, 531.
- nitrogenous nutrition of (PRINGSHEIM), 1907, A., ii, 287.
- behaviour of cultures of some races of, at different temperatures in reference to activity of the enzymes, length of life, resisting power, and death (HENNEBERG), 1904, A., ii, 634.
- conversion of acetaldehyde into ethyl alcohol by (KOSTYTSCHIEFF and HÜBBENET), 1912, A., ii, 860.
- probable existence of emulsin in (HENRY and AULD), 1906, A., ii, 114.
- enzymes of (CALDWELL and COURTAULD), 1907, A., i, 809; (V. EULER), 1912, A., ii, 193.
- action of (BUCHNER and HAEHN), 1909, A., i, 624.
- activity of the enzymes of (V. EULER and KULLBERG), 1911, A., ii, 817.
- glucolytic enzyme of (BIRCKNER), 1912, A., i, 817.
- proteolytic enzyme of (SCHÜTZ), 1903, A., i, 379.
- preparation of the proteolytic ferment of (KOELKER), 1910, A., i, 798.
- formation of volatile acids by (OSTERWALDER), 1912, A., ii, 475.
- formation of volatile acids during the fermentation of wines by (V. DEE HEIDE and HÜBBENET), 1912, A., ii, 860.
- production of formic acid by (FRANZEN and STEPPUHN), 1912, A., ii, 475.
- formation of fusel oil by (EHRlich), 1907, A., ii, 44.
- conditions of the formation of fusel oil and their connexions with the formation of proteins in (EHRlich), 1907, A., ii, 383.
- formation of glycogen by (PAVY and BYWATERS), 1908, A., ii, 56.
- amount of glycogen in (HENNEBERG), 1911, A., ii, 519.

**Yeast**, preparation of glycogen and yeast-gum from (HARDEN and YOUNG), 1912, T., 1928; P., 235.  
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 the nuclein ferments of (STRAUGHN and JONES), 1909, A., ii, 690.  
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   a methylglucose in (BRESSION), 1910, A., i, 798.  
   action of, on acid amides (EFFRONT), 1908, A., i, 491.  
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   respiration and fermentation of the different varieties of (WARSCHAWSKY), 1905, A., ii, 342.  
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   new, as a cause of saké disease (TAKAHASHI), 1906, A., ii, 880.  
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**Yeast**, resting, in moist and pressed conditions (HENNEBERG), 1905, A., ii, 274.  
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**Yeasts**, some constituents of (HINSBERG and ROOS), 1903, A., ii, 565.  
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- Yeast cells**, formation of glycogen in (BRUSCHI), 1912, A., ii, 283.
- action of sodium salicylate on (DRESE), 1906, A., ii, 43.
- action of alkali phosphates on (BOKORNY), 1907, A., ii, 121.
- action of vapours on (HERZOG and HÖRTH), 1907, A., ii, 804.
- effect of acids, alkalis, and neutral salts on the activity and multiplication of (DRABBLE and SCOTT), 1907, A., ii, 571.
- dead, influence of high sugar concentration on the work of endotryptase in (GROMOFF), 1906, A., ii, 569.
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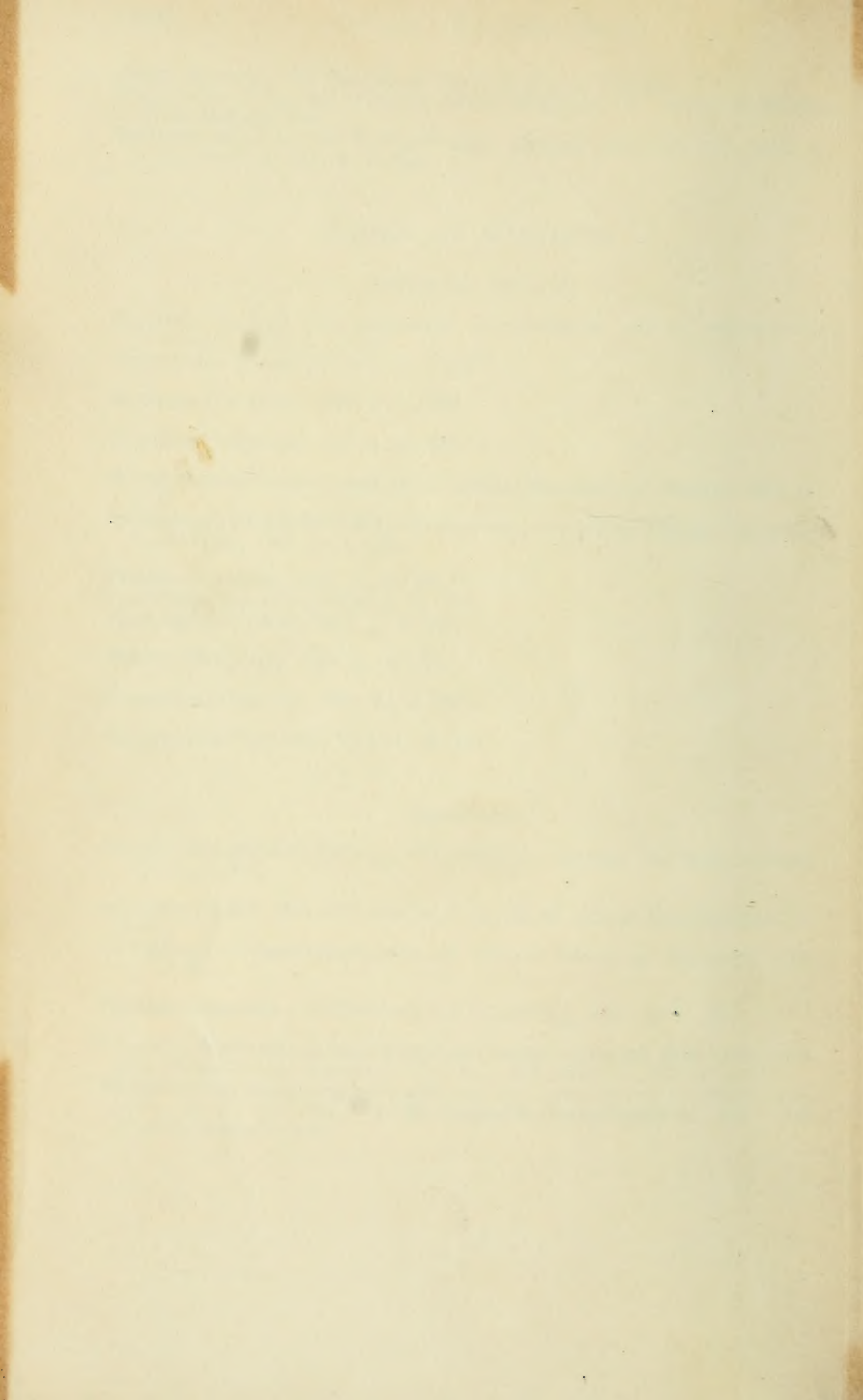
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